THE

# Journal of the American Medical Association.

EDITED UNDER THE DIRECTION OF THE BOARD OF TRUSTEES.

PUBLISHED WEEKLY.

VOL. XII. CHICAGO, APRIL 20, 1889. NO. 16.

## ORIGINAL ARTICLES.

### DO MATERNAL IMPRESSIONS AFFECT THE FŒTUS IN UTERO?

*Read before the North Texas Medical Asssociation, Dec. 13, 1888.*

BY J. M. FORT, M.D.,

OF PARIS, TEXAS.

We live at a period that will be memorable in the world's history. It is an age of deep and and profound thought. An age of unwearied research and investigation; and an age of brilliant discoveries.

All science is achieving grand triumphs, and results that would have confounded and amazed our ancestry of fifty years ago.

Medical science is moving rapidly and grandly forward in this upward and onward march of progress. It is rapidly leaving behind it the dictum of mere opinions and theories which for so many centuries obstructed its progress and misled the minds and wasted the energies of medical men; for, until comparatively a short time ago, theories and speculative opinions were accepted and acted upon by medical men as so many established facts.

It is no easy task to change or alter men's preconceived and long-cherished opinions, but opinions are not always facts, and an opinion unsupported by testimony is but an opinion still. That they are the forerunners of knowledge I admit. They lead the mind far out into the unbounded fields of speculation, seeking to find where truth is hid; but, it is left for experimentation and demonstration, aided by clinical research, reason and analogy to remove the rubbish from off these germs and to expose their hiding places.

Medical science—as all science—"*is the enemy of credulity.*" It challenges reason, invites investigation, stimulates inquiry and welcomes facts, to the end that human life may be prolonged and enriched by health and happiness. It seeks to ennoble, to elevate, and to refine the human race. It seeks to give proper food and shelter, education and raiment, and to inculcate a higher appreciation of health in the physical and intellectual man, and to erect beacons of warning along the dangerous shores of life.

The question which I propose to discuss in this paper, so far as my investigation and research go, is based solely, and only, upon "opinion or belief," with an occasional coincidence, unsupported by law or testimony.

"The occasional apparent relation of cause and effect being due in most instances to accidental coincidences, which would be far less frequent if the alleged facts could be obtained prior to instead of subsequent to the birth of the child."

It is a question which embraces either a widespread error, fraught with human misery and human suffering, a traditional superstition, kept alive, to a great extent, by the medical profession, or it embraces a profound, occult and mysterious law of our being, of which we know nothing, save and except its sad consequences.

The question is: Can the theory of "maternal impressions," as generally believed and contended for by the great mass of people, and accredited to a considerable extent by learned and scientific physicians, be true?

In other words, can mental impressions or emotions made upon the mind or brain of a pregnant woman, no matter how revolting or disgusting they may be, no matter how horrifying, even if of such a character as to arouse or elicit her feelings to their fullest extent or uttermost depths; or if they be of such a nature as to elicit the tenderest and most sympathetic emotions of her being; or if calculated to excite a keen sense of alarm or fear of impending danger. And if such impressions be made *suddenly, violently*, and should they prove to be lasting in their effects, can these impressions, photographing, as they may, the object or objects making them upon the brain, I say, can they, by or through any known agency, or by any known law, physiological, pathological, or psychological, or by any change which such impressions may make, by nervous shock, in the nutritive element of the blood of the woman, be reproduced in or on the fœtus in utero, or manifest themselves by any abnormality of the fœtus? This is the question. What shall the answer be?

I admit that in a large majority of instances of pregnancy, especially in women of nervous temperaments, the mental faculties act in an exaggerated sphere. They seem to lose for the time being that happy equilibrium and harmony of thought

and action which may have characterized their former lives, and which makes them the charming creatures we know them to be.

The brain does not always give forth a white light, but by perversion the thoughts are made prismatic. They indulge in, or give way to morbid sentiments, and irritable moods, which seem to transform or revolutionize their entire character, passions and prejudices, frequently giving cast to their thoughts and actions. Their desires colored by hopes, or weakened by fears, often warp the judgment and mislead the will. Not infrequently the mind is distorted or, as it were, deformed by morbid apprehensions, and consequently beset with gloomy clouds and dark forebodings of coming evil to themselves or their offspring.

This abnormal mental condition manifests itself in various and frequently in unexpected ways, and when taken in connection with the functional modifications of the nervous system incident to pregnancy, often gives rise to functional disorders of the senses—such as dimness of vision, painfully acute smell, hearing, etc.—as well as to a class of nervous diseases—such as neuralgias, hysteria, vertigo, syncope, and occasionally mania.

*As as rule*, emotional susceptibility is greatly increased, and a condition of mind, for the most part, exists which readily receives an impression, and as readily perverts, distorts or magnifies it.

These psychical changes and nervous manifestations incident to pregnancy, as every physician knows, are subject to innumerable individual variations.

Now, engraft upon such a mental condition, *if you will*, the belief or opinion that deformity or abnormality to her offspring may result from impressions made upon the mind of the pregnant woman by witnessing certain painful sights or hearing certain distressing sounds, or by permitting the mind to dwell upon certain subjects, especially if of a disagreeable or distressing character, and you most assuredly plant the seeds of gloom and despondency, and give rise to a fearful, yea and a tearful, looking forward to the day of her confinement which such a thought would necessarily and unavoidably produce upon the mind of a sensitive woman.

For permit me to say, that under the most favorable circumstances the pregnant woman looks forward with anxious solicitude to the day and hour when her maternal instincts and motherly yearnings will be gratified. When with feelings *stronger* by far than the *love of life* or the *fear of death* she can clasp in her fond embrace and press to her devoted heart *her own precious babe*, around whom she has already entwined the sweetest, the tenderest, and the most endearing ties and emotions that have ever found lodgment in the human heart.

If, perchance, however, it can be established, either as a fact or as coming within the realms of probability, that such effects may result from such causes by some mysterious occult law of our being, though inexplicable in the present state of our knowledge, it behooves us as medical men, it behooves husbands, fathers and brothers, it behooves mothers, sisters and friends of the pregnant woman to caution, admonish and to guard her faithfully against every contingency which would even in the most remote degree be calculated to bring about or result in such a sad calamity, for they are the mothers of the race, and when pregnant *woman* appeals to the sympathies, and to the most sacred instincts of our humanity—care for her—be kind and gentle with her, for she is fulfilling a God appointed destiny.

To ask what are "maternal impressions," is but to ask what are intellectual acts, or what are thoughts. It is true, scientists and materialists claim to have answered this question, and perhaps have done so to their own satisfaction, but their answer is far from being received or accepted by the great mass of mankind, and by very many physicians.

That consciousness, or thought, which underlies and is the basis of all knowledge, arising independent of and uncontrolled by the will, is located in and arises from brain matter *no one will deny*. Of all material matter which goes to make up this grand universe, upon which we look with wonder and astonishment, and wherein we find displayed and made manifest to our senses on every hand an infinite wisdom and a creative power far beyond our finite comprehensions, I repeat, of all this wonderful mass of material matter, brain matter, and brain matter only, gives rise to thought. While it is true we can form no idea or conception of thought or intellectual acts aside or disconnected from brain matter and brain action, yet may we not unhesitatingly assert "that physiological research *has not* reduced the fact of intelligence to the phenomena of matter only." "Can thought be evolved by physical or chemical forces or the molecular play of brain matter only?" Physiology cannot or does not affirm the proposition, and yet those who claim to be advanced thinkers assert "that the physical forces of the brain are all sufficient for the production of thought."

One says, "All states of consciousness in us are immediately caused by molecular changes of brain matter." (Huxley.)

Another says, "That the brain secretes thought just as the liver secretes bile." (Cabiness.)

And another says, "That thought is a force devolved by brain action."

It is evident from the diversity of opinion here expressed as to *how* thought is evolved from brain matter, that he who endeavors to solve the mysterious connection between mind and matter finds himself walking in a field of obscurity, surrounded on every hand by dark clouds of uncertainty.

which admonish him that there is "a horizon beyond which human knowledge cannot go."

In the dark valley which intervenes between mind and matter, where thought, lost in a labyrinth of mysteries, struggles to comprehend the mode and manner of its own creation, we meet with some of the profoundest mysteries of our nature. Here, gentlemen, we fall in with sleep, dotage, somnambulism, and insanity, mental conditions upon which scarcely a ray of light has been thrown, and around which the veil of mystery hangs like a heavy drapery.

"In the misty clouds of doubt and speculation which forever brood over this dark gulf a thousand theories and a thousand errors lurk."

"In the language of Dr. Theophilus Parvin, we may weigh the brain, count its billions of cells, measure, if you please, the rate of its sensory impressions or motor impulses. You may go further, and localize its functions and analyze its matter, you may convert it into OHNC and Phos., if you wish, you may measure the undulations or vibrations of its molecules, and determine its mechanical or chemical forces and phenomena, and after all of our observations, calculations and analyses" what have we accomplished? We have but *determined the cerebral conditions incident to thought or its production, but not what constitutes thought itself.*

I am fully convinced that every intelligent, thinking physician, every physician who has directed his attention to what are called "mental influences in the causation, the aggravation, as well as in the cure of diseases" will agree with me in the opinion, yea in the *conviction*, that there is something in these bodies of ours superior to the body itself."

I do not believe, therefore, that the phenomena of mental action can be referred to or is dependent on physico-chemical laws, *per se.* "But we must accept the idea of a vital principle as being superphysical, and with that idea, its correlate, a living Creator such principle." "God pervading all, is in all things the mystery of all and each."

So then, in answer to the question, What are "maternal impressions," or what are thoughts considered in their entity? we must, in the language of our esteemed fellow member, Dr. J. S. Sanders, say "we don't know." But while we may not be able to materialize thought, or unravel the mystery of its production, we do know, however, that the brain is so constituted that it can, and does, receive impressions made upon it by external objects though the medium of the senses; or they may originate in the domain of thought itself (as in dreams), through the inherent powers of the imagination, "which worketh while the judgment is at rest and the will is in captivity," and in either event these impressions may become *fixed, permanent*, and *living images*, ever ready to be called up and brought vividly before the mirror of the mind, never to be erased so long as the mental faculties retain their normal powers.

Through the medium of language these images or impressions may be conveyed from brain to brain, from mind to mind, *only*, for physiology teaches us that the nervous system—which includes brain and nerves—is anatomically and physiologically separate and distinct from all other systems and organs of the body; that its physiological properties are *inherent*, and that it gives to no tissue or organ its special irritability or power of *performing* its *particular functions*, *i. e.*, brain matter evolves thought and receives impressions, and nerves transmit them. The power of transmitting thoughts or mental impressions is not and cannot be delegated to any other organ or tissue of the body.

Modern physiology, founded to a great extent upon experiments made upon living animals, teaches us that the intellectual brain; the home of intelligence, the *canvas* upon which these wonderful "maternal impressions" are painted, has far less influence over the functions of the body than at one time was supposed. For instance, it has been demonstrated that, after division of the *dorsal spinal cord*, acts proper to copulation, and those of labor and birth, take place in a normal way, and that the processes of ovulation—of the development of the pregnant uterus—(which necessarily involves the development and growth of the fœtus), and the lacteal glands, the development of the impulses which are associated with reproduction, suffer no visible impairment from this operation.

I believe that it is a conceded fact that the umbilical cord, which varies in length from 4 to 60 inches, has no nerves; that is, there are no nerves passing from the uterus of the mother along the cord to the embryo, by which "maternal impressions" could be conveyed to the developing embryo.

Again, we all know that the fœtus is surrounded by, and floats in, the amniotic fluid, and that this fluid is developed *very early* in fœtal life; that it reaches its maximum quantity about the middle of gestation, and then lessening to the end of pregnancy; so that these "mental impressions" could scarcely reach the fœtal body by or through the medium of its contact with the interior wall of the uterine organs. And since we have shown that the nervous system *never* delegates its peculiar functions to any other organ or tissue of the body; and since it has been determined, and I presume it is conceded by every one, that nerve tissue *only* conveys mental impressions, and as there is no nervous connection whatever, direct or indirect, existing between the organism of the mother and the fœtus *in utero*, I again ask how, and by, and through what medium these intellectual impressions are transmitted, or conveyed from the brain of the mother to the fœtus *in utero?*

To surmount these barriers to the acceptance of this theory we are told that these impressions may be conveyed in early embryotic life, before the allantois and other membranes form, the placenta and umbilical cord. Before proceeding to meet this suggestion—for it is only a suggestion—I will say that, in a vast majority of instances, it is alleged that these "maternal impressions" operate or exert their deleterious influence upon the fœtus at a later period of gestation; that is, at some period from the third or fourth month of gestation till near the end of pregnancy. As a rule, but little notice is taken of these "maternal impressions," and but little importance attached to them, during the first months of gestation.

The great Creator of all things has ordained from the foundation of the world that man, with all of his capabilities and yet unknown possibilities, should be born of woman. She is the matrix of mankind—the mother and perpetuator of the races; she carries in those wonderful little ovarian bodies of hers the seeds of the human family.

In all the higher order of animals or beings, two separate individual beings are necessary to accomplish the process of germination—one the male, endowed with the fecundating power or nature, and the other the female, endowed with the germinating power or nature. "Male and female created he them, unto the end that they might increase, and multiply, and fill the earth with intelligent beings, wonderfully endowed with life faculties."

In the germinal spot or vesicle of the fecundated ovule or egg of the human female, a microscopic object, $\frac{1}{3000}$ of an inch in diameter, is comprised the very commencement of human life. And in the ovum, which is only $\frac{1}{20}$ of an inch in diameter —strange, wonderful and mysterious as it may seem and is—in this wonderful little object there dwell "*physical potentialities, species, race, family and individuality;*" yea, and more, for here we find implanted that wonderfully mysterious and incomprehensible law of *heredity*—a law to the operation of which we owe our being; a law transmitting the physical, intellectual and moral qualities and peculiarities not only of parent and family, but of race and species, from parent to child; a law far-reaching and widespread in its nature and in its operations; "a law in which these distinctive qualities and peculiarities of race, or family, or both, may slumber through one or more generations, to reappear in subsequent ones." In the operation of this law, we frequently find "disease transmitted from one parent or the other to the offspring, and the disease may show or manifest itself in the child, before it does in the parent transmitting it. Or, again, the malady may date back to a grandparent, the father or mother transmitting to their children a disease of which they (the parents) presented not the slightest manifestations perhaps during a long life." How true are the words of Edgar Fawcett:

> "Who sees how vice her venom wreaks
> On the frail babe before it speaks;
> And how heredity enslaves
> With ghostly hands that reach from graves."

When the vital cells or spermatozoa of the male reach the ovule of the female, many of them collect around it, floating in a medium seemingly provided for the purpose. Several of them may, and frequently do, penetrate the zona-pelucida, its outer membrane, but it is left for one, and one only, to accomplish its fertilization.

When this vitalizing cell enters the germinal vesicle of the ovule, in obedience to an inherent reproductive law which pertains to all germ life, it divides itself into two complete and perfect cells, each retaining its distinctive characteristic features. One, the protoplasmic cell formed of a part of the head of the spermatozoon, impelled by an inherent sexual power, goes direct to the protoplasmic cell or germinal spot of the ovule, and these two protoplasmic cells fuse into one, and form the segmentation nucleus of the fertilized egg.

Again, the vital cell formed by the tail of the spermatozoon unites with the protoplasm furnished by the ovule, forming a second joint or combined cell. These two, in connection with a nucleus or cell resulting from the fusion of the remainder of the head of the spermatozoon with the residue of the germinal vesicle of the ovule, forming, as you see, three classes of cells or spheres, called, as you remember, epiblast, hypoblast, and mesoblast. These, in connection with a group of cells which result from the division of the ovum, called "blastomeres," constitute the several groups of cells developed in the ovum—each cell divides, and each of these again divides, and so on until groups of each are developed.

From these several groups of vital cells as I have endeavored to describe them, formed by fusion of the male and female protoplasmic material, *the fœtus, with all of its organs and tissues, is developed.* And this is accomplished by the same process, and in the same manner, that the organs and tissues of the adult are regenerated and maintained—that is, by cell proliferation and modification.

The youngest human ovum of which we have any record, that has ever been seen, was estimated to be twelve or thirteen days old, and it is thought that it requires about that length of time for it to reach the uterine cavity after leaving the ovarian nidus. During the transit of the ovum through the Fallopian tube, and until attached to, or overlapped by, the mucous lining membrane or decidua of the uterus, nature provides it with its own nutrient material. Most assuredly, it cannot be influenced or impressed by "maternal impressions" at this stage or period of its development, since it has no nervous connection with the uterus,

nor does it draw its nourishment from the nutrient element of the mother's blood. And further, at the end of the first month of gestation, the embryo is but a pulpy mass, without fœtal form, and only $1\frac{5}{6}$ of an inch in length. The amniotic fluid, however, has been developed, and the embryo can be seen floating therein even before this period.

The process of segmentation, or binary division, is usually completed by the time the ovum reaches the uterine cavity, by which time a heterogeneous mass—*not of cells*, but of groups of cells, is formed; each group being endowed with an inherent capacity to form by multiplication and coalition certain organs and tissues of the fœtal organism—*that and no other*. They are the architects and builders of the new being, acting wholly independent of nerve influence from any source whatsoever.

To demonstrate more fully and forcibly this inherent cell law, I here show you the picture of little Ada Hurst, aged two and a half years, from whom I assisted Dr. I. F. Hooks, of Paris, one of our respected and honored members, in removing a dermoid tumor weighing 7½ lbs. One of the ovaries of this child, from some unknown reason, caught up the process of cell multiplication or proliferation, and set to work to make a fœtus of its own; the effort resulting in a confused and conglomerate mass of fœtal tissue, including hair, bones, etc.

By the operation of this law there is implanted in the ovum everything necessary for the development and growth of the fœtal organism, except, perhaps, the nutrient material out of which the process is to be accomplished. The Deity, in his infinite wisdom, has seen fit to isolate these new beings, and place them out of the reach of influences calculated to mar their being or prove hurtful to their development and growth.

To sustain the theory of "maternal impressions" we are further told, that these severe mental emotions so impress, alter, and change the nutritive element of the blood of the mother, that it perverts and vitiates the nutritive process of the fœtus; that the fœtus, being in the formative stage, is more readily affected by a vitiated or hurtful element of nutrition than the adult.

Upon the point of fœtal nutrition I will say, that it has been recently reasserted that the fœtus is nourished altogether by swallowing, or absorbing, through the skin, the amniotic fluid, and that the only function of the placenta is to act the part of a lung; that is, to give off the dioxide of carbon from the fœtus and to receive oxygen from the arterial blood of the mother, in the same way and manner that the fimbriated extremities of the gills of the fish receive it from the water which it breathes.

If this theory prove to be true, then the fœtus supplies its own nutrient material, since the amniotic membrane is strictly a fœtal membrane, formed within the ovum in very early embryotic existence, whose physiological function is to furnish the liquor amnii. This fluid being a secretion furnished by the amniotic membrane, it is more than improbable that maternal impressions could pass through the process of secretion and reach the fœtus through such a circuitous route. If, however, it receives its nourishment from the arterial blood of the mother—which it unquestionably does—and these maternal impressions produce a systemic or nervous shock which so alters and changes the nutritive element of the maternal blood as to render it unfit for fœtal nutrition, *why not for maternal nutrition as well?* since, for every ounce of this material which is appropriated to the development of the fœtal organism, from 2 to 3 lbs. of the same material goes to the regeneration or maintenance of the organism of the mother.

The pregnant woman who maintains her normal physical condition during pregnancy appropriates to the maintenance of her own organism not less than 30 lbs. of nutrient material per month; aggregating 270 lbs. during the period of gestation, and if the child at birth weighs 9 lbs., which is something over an average, the mother will have used *thirty pounds* of the nutrient material, to the fœtus' *one*. Further, if the process of nutrition can be deranged, perverted or arrested by impressions made upon the mind, it occurs to me that it would occur more frequently in the mother than in the fœtus, since she is in possession of a *matured* nervous system, which it is claimed regulates the functions of secretion, nutrition, calorification, and all the processes of organic life.

It is not claimed, however, that the entire organism of the fœtus suffers from this altered condition of the circulating medium of the mother. If such was the case, and "maternal impressions" proved detrimental to the development and well-being of the fœtus, we might very rationally conclude that such ill effects were the result of a vitiated or depreciated condition of the nutritive element of the blood. On the contrary, however, their evil effects are only seen in some certain *locality*, *organ*, or *tissue*, making manifest such alteration or perversion of the normal process of nutrition by reproducing, on the fœtus, a duplicate of the *picture* impressed, or photographed, on the mind of the mother. In other words, these cruel "maternal impressions," as though capable of exercising a degree of intellectual control over the fœtal nutritive process, *say to it*, "See that thou makest it" (the picture); it may be a bloody hand, a lacerated and bleeding limb or a deformity of some kind, or a snake, or a turtle, or a rat or mouse, or some other scary animal or ugly sight—*it matters not what*, just so it makes a "maternal impression"—"see that thou makest it according to the pattern showed thee in the mount."

What a wonderful perversion of nature's laws. As an argument in favor of this theory, we are further told that the fœtus is being rapidly developed, that it is in the formative stage, and consequently, any slight alteration in the nutritive process would be followed by more serious results in the fœtus than in the adult.

In answer to this I would say, that it is a well-known fact that, in a large majority of cases of pregnancy, nature provides for the development and growth of the fœtus, by inaugurating in the system of the woman an exaggerated or hypernutritive process similar to that which takes place in the fœtus. This is made apparent by an increase of weight, by an increase of adipose tissue, and by a general improvement in the physical condition and appearance of the woman. This increase of tissue being as newly formed, and as recently developed, as the organism of the fœtus, I can see no reason, nor do I find any medium through which nature could make such cruel and unfair discrimination against the innocent unborn, upon this ground. It seems strange to me that whatever of evil effects or disastrous consequences flow from these "maternal impressions," or mental shocks, that they should be visited on and manifest themselves only upon the fœtus *in utero*.

Again, if the fœtus *in utero* is to be regarded during its development; that is, during its intra-uterine life, as a part of or as an addendum to the physical organism of the woman, subject to all the mutations for good or ill that may take place in her organism, governed and controlled by the same physiological laws that sustain vitality and govern the animal functions, including the nutritive process in the body of the mother; I say, in that event, "maternal impressions" or intellectual acts are most assuredly *inoperative*, and cannot be regarded as instrumental in the production of changes in the developing fœtus to the extent of producing abnormality, for it is well known, nor is it claimed by the most ardent advocates of this theory, "that the Ethiopian can change his skin or the leopard his spots." "Or which of you by taking *thought* can add one cubit to his stature."

If the intellectual impressions can "mark" or deform the fœtus, then they can "mark" or deform the body of the mother as well. As before intimated, I regard it as an unsettled question, as to what extent the process of nutrition is influenced or controlled by nervous influence, or nerve force. In muscular atrophy, for instance, the shrinking and wasting of the muscular tissue is said to be due to inaction; or, in other words, to the loss of motor power, and not to loss of nerve force by paralysis.

I am convinced that the nutritive process going on in the fœtal organism is in no wise influenced by its own nervous system. This, I think, is clearly demonstrated by the perfect development of the acephalic monsters. Some of these are perfect specimens of physical development, *less the brain*. I have in my possession a *finely formed male child*, an anencephalic monster, which is destitute of brain and spinal cord. And yet, some of these have been known to live for from a few hours to six and seven days. Bayle reports one that was born with two teeth, which lived seven days. Ramsbotham reports seeing one of these anencephalic monsters alive thirty-six hours after birth. He states that it cried, sucked, and seemed to perform all the animal functions much more perfectly than would have been supposed. He also relates an instance of a woman having had six children and each alternate one being an anencephalic monster.

It would extend this paper to too great length, and unnecessarily consume the time, to even attempt to enumerate the different abnormalities which have been classified by writers upon this subject, to say nothing of those which have not, running as they do over an extensive field of observation, from the proverbial "strawberry mark" to the composite monstrosities.

In the classification of the hæmiterata, or anomalies of growth alone, we find fourteen varieties described; in the single monstrosities ten varieties; in the twin or composite monstrosities twelve varieties. Then again, each of these varieties are subdivided, extending the list to great length. In the field of malformations or deformities we find an extensive variety, such as bow-legs, knock-knee, bandy-legged, hump-shoulders, all the varieties of club-foot, club hands, supernumerary fingers and toes, cleft fingers and toes, webbed fingers, etc. These are generally hereditary.

"Thus in a family of twelve children two out of four boys had harelip and fissured palate, and one out of eight girls had hypertrophy of the right lower extremity with atrophy of the right great toe. The father had a supernumerary little finger on one hand."

Intra-uterine amputations are not infrequent. Skin diseases are more frequent, and are often likened to the skin of some animal seen by the mother. Congenital nævi are very frequent. This is the disease which makes the "marks" on the new-born babe, and which is contorted into the likeness or image of such a variety of objects by the imagination of old women and doctors, and attributed to "maternal impressions." When arterial and cutaneous they are of a bright florid color, and are made to represent some bloody scene, if, perchance, anything of the kind should have been seen by the mother during gestation. Where veneous and cutaneous they are of a bluish or purplish color, and are then made to represent another series of objects.

This disease of the capillaries though generally congenital, may occur after birth. It may

be single or multiple, cutaneous or subcutaneous, arterial venous or mixed. If it was in the human family *only* that these abnormalities occurred we might be inclined to attach more importance to this prevalent idea, but they are of as frequent occurrence if indeed not more frequent in the lower order of animals, especially in the domestic animals, such as the horse, the cow, the dog, the hog, the cat, etc. When they occur in these animals they are the counterpart of what we see in the human subject. They are not infrequent in the feathered tribe, also.

It is true, the animals above enumerated are gifted with wonderful instincts, but it is hardly reasonable to suppose that they possess a sufficient degree of intellectuality to be influenced by such sights or objects as is claimed make these maternal impressions upon the mind of the pregnant woman.

In early embryotic life in case the amnion is not lifted from the newly forming skin of the embryo, in consequence of an insufficient secretion of amniotic fluid adhesions form between the body of the fœtus and amnion, and as the amniotic cavity becomes distended the adhesive material stretches and forms bands of greater or less length and thickness. "These adhesions frequently prevent the proper arching over and closure of the body cavities, producing such deformities as *eventration*, *anencephalus*, etc.

Moreover, a developing limb, as an arm or leg, or a hand or foot, may be caught between two of these bands, or may be encircled by one, and as it grows be so constricted as to produce an amputation. The amputated portion of the limb being in the embryotic stage of development is soon dissolved by the amniotic fluid—or it may be accomplished by the limb being encircled by the umbilical cord. Amputations in-utero occur in this way, and not as a result or consequence of "maternal impressions," as some believe.

In conclusion, I would say that various causes have been assigned for the production of these abnormalties. Some physiologists are inclined to the opinion that the germ is imperfectly formed prior to impregnation. Others that they may result from an undue admixture of protoplasmic material at the moment of fecundation. Other causes also, it is thought, may operate, such as the rapid and active growth which develops from a single cell—in the short space of nine months—one of the most intricate, complicated, complex and mysterious beings in all the animal creation. When we remember that the most important vital functions of this being are performed during its development by an organ itself *without* the fœtal body, and subject to diseases and accidents, and when we consider that the fœtus is essentially a parasitic being, liable to become diseased and development arrested by some systemic disease of its host. And again, that these results may be brought about by some taint or vice handed down from somewhere along its long line of ancestry, even from "Ghostly hands from graves." I repeat, when we take all these things into consideration —and many more which could be mentioned—and then remember that hundreds, if not thousands of children are born every hour, may we not rather be surprised at the comparatively few abnormalties we meet with. And may we not rationally conclude *that there are causes* enough operating to account for their occasional occurrence—which appear more rational and more in harmony with the laws of cause and effect—than to attribute them to the intellectual acts or mental impressions of the pregnant woman. For it is well known that these so-called "maternal impressions" exist to a greater or less extent in the minds of a large majority of pregnant women without producing any visible effects whatever upon the child.

---

## CONSTITUTIONAL TREATMENT OF ACUTE CATARRH OF THE UPPER AIR PASSAGES.

*Read before the American Rhinological Association at Cincinnati, September 13, 1888.*

BY J. G. CARPENTER, M.D.,
OF STANFORD, KY.

Acute catarrh or cold of the "upper air passages" might truly be called a "freshet" or "overflow" of the watery and other constituents of the blood, into the mucous and submucous connective tissue. To successfully treat this disease, there are three indications, viz.: first, to arrest it in the first stage, or prevent this overflow and injury to the normal tissue; second, should the disease have passed into the second stage, drain out and deplete the engorged and inflamed tissue and arrest inflammation; third, repair the damage to the affected tissue by the disease having passed into the third stage, and not allow it to end in chronic catarrh, but resolution.

*Constitutional Treatment.* — Bromide of potassium diminishes reflex irritability and cutaneous sensibility, and depresses the activity of the spinal cord and the medulla, and has its appropriate place in the first and second stages of acute catarrh. The iodide of potash acts specifically on the mucous lining of the eyes, nose, frontal and ethmoidal sinuses, mouth and salivary glands; 3 to 10 grs. taken at bedtime will often cut short a cold in the upper respiratory tract, and is indicated in the first and second stages. Combined with 20 or 30 grs. of the bromide its action is increased; in addition, there is the anodyne effect of the latter.

"Inhaled or taken by the stomach camphor exerts a decided influence on cold in the head." Employed at the beginning of an attack (it is useless after the first stage), camphor sometimes arrests a cold, and failing in this it abates its vio-

lence, obviating or diminishing frontal headache, restlessness, sneezing and running at the nose. ("Inhalations or sprays of spts. of camphor locally, in weak solutions, assists the internal administration." Ringer.) The same may be said of menthol in weak solutions, or the pencil applied to lips, tongue and nares.

The hot foot-bath, given in ordinary colds by patient sitting on the side of the bed in a warm room, with a blanket enveloping both patient and tub, for fifteen to thirty minutes, keeping the temperature of the water 95° to 100° F., and then remove feet wrapped in the blanket without drying, causes a free perspiration, and allays irritation of the air passages and restores the skin to its normal function.

Should an acute catarrh or "cold" be very violent, the patient should be placed in bed between two blankets with sufficient cover, and have placed between the blankets a tub of as hot water as can be tolerated, in which the feet should be immersed from twenty minutes to one hour, and tub then removed. Every five minutes a cup of hot water should be added to maintain the high temperature of the bath. The good effects of both a foot and vapor bath are obtained. The patient sweats copiously, and should remain carefully wrapped until the perspiration subsides, the clothing and skin are dry; then the body should be massaged and anointed with vaseline once or twice every twenty-four hours for one or more days, if necessary. The function of the skin being arrested in acute catarrh, the inunction and massage cleanses the skin, invigorates the body, and fortifies the system against future invasions of acute inflammation of the upper air passages. If essential, the hot foot and vapor bath may be given every six or ten hours. A cup of strong hot coffee or tea, or even hot water taken, aid the diaphoresis; the former also acting as a fine diuretic. A hot lemonade or Dovers powder will also increase or continue the diaphoresis for some time after the tub is removed. If a cold is neglected it ends in chronic catarrh, or the subacute. Every cold weakens the system to a certain extent, and makes the patient more susceptible to future attacks unless properly treated, therefore abort or arrest an acute catarrh at once. ("At the commencement of a feverish cold a Turkish bath will cut the attack short, remove the aching pains and relieve the hoarseness at once. The Turkish bath will relieve or carry off the remains of a severe cold, as hoarseness, cough with expectoration and lassitude." Ringer.) In mild attacks of acute catarrh, anointing the integument with vaseline, and the free use of massage once or twice in twenty-four hours for one or more days, will abort an attack and assist the other medicines in accomplishing the same result.

Opium and its preparations check the secretions from all mucous membranes, and no doubt have a specific effect in checking the acute inflammations and secretions of the upper air passages, and by allaying pain and cutaneous irritation and its diaphoretic action makes it or some of its preparations a valuable, if not the most valuable, drug that can be given in any stage of acute catarrh, more especially in the first and second stages. Opium should be given in ¼, ½, or 1 gr. doses, and repeated every one, three or six hours, *pro re nata*. The various preparations should be given in small doses and repeated at the above intervals. It is often essential to combine quinine or belladonna with opium, one or both; the former in 2 to 5 gr. doses; the tincture of belladonna, gtts. iv–xv; extract, ⅛ to ⅓ gr., given at the same intervals as opium. When Dovers powder is given the bromide of potash should be substituted for the sulphate. Muriate of pilocarpine, gr. 1/20 to ¼, will aid very materially the diaphoretic action of opium and arrest congestion of the respiratory tract. In the first stages of acute catarrh, nitrite of amyl or "glonoin" will often abort or arrest the disease. The most characteristic effect of this drug is its influence on the vascular system. It relaxes the whole arterial system and greatly reduces arterial pressure. The reduction of arterial pressure is due mainly to the great dilatation of the arterioles and, after large doses, to depression of the heart. Though it dilates the arterioles, they remain so a much shorter time than the arteries, and when the following symptoms are present in the first and second stages, viz.: chilliness, headache, lassitude, dryness of skin, cold feet, sneezing and photophobia, pain in the nasopharyngeal chambers, nitrite of amyl does good by flushing the integument and increasing the heat and perspiration of the head, face and neck; sometimes the increased warmth and perspiration affects the entire skin. Its effect is possibly due to its effect on the vaso-motor nerve trunks or on the muscular coats of the arterioles. In catarrhal, as in other inflammations, there is partial or complete paresis of the vaso-motor constrictors. The nitrite of amyl does not increase the paralysis of the constrictors of the vessels, but dilates the arteries and arterioles and allows circulation of the blood to be increased in other parts of the body, thereby equalizing the circulation and arresting inflammation. Trinitrine tabloids are preferable to the nitrite of amyl. The physiological effects of the former are continued a much longer time than the latter, and four to six doses, three to six hours apart, in twenty-four hours, maintain the physiological effects. Quinine is partly eliminated by the skin and respiratory membrane, and it arrests the amœboid and allied movements of the white corpuscles and is supposed to control inflammation by its destructive influence on the movements of the white corpuscles, and in the first and second stages of acute catarrhal inflammation will cut short an attack. Its action is

much increased by combining it with opium, belladonna or aconite. Quinine, by arresting the transmigration of the white corpuscles, prevents the formation of the pus corpuscles, and should be continued through the third stage of acute catarrh until resolution is complete. It is antiseptic, and in small quantities destroys septic germs, arrests putrefaction, renders the secretions aseptic, and is a valuable local application in the first, second and third stages of acute catarrhal inflammation of the upper air passages. A powder composed of quinine sulph., grs. ij; bismuth subnit., grs. ij; morphiæ sulph., gr. ⅛; cocaine muriat., gr. ⅛ to ¼, well triturated and blown into each nostril two or three times in 24 hours, will abort or arrest a cold quickly in the first and second stages and shorten the duration of the third stage.

Belladonna is one of the most efficient drugs that is used in the treatment of acute inflammations of the "upper air passages," and, given internally or locally, checks and even suppresses the secretions of the mucous glands and follicles.

"One of the centres of the sympathetic nervous system—the spheno-palatine ganglion—supplies branches to the lining membrane of the nose, throat, soft palate and Eustachian tube. It possesses a sensory, a motor and a sympathetic root. It is connected with the pneumogastric and facial nerves, and through its numerous connections an intimate sympathetic relation is established between the nose, throat, ear, larynx and bronchial tubes. Removal of this ganglion causes a severe catarrhal condition of the nasal mucous membrane. This membrane is continuous with that which lines the nasal duct and eyelids, the throat, Eustachian tube, middle ear, larynx, trachea and bronchial tubes. A congestion started in one portion of this membrane may extend to other parts." In acute catarrh there is, doubtless, a paresis of the spheno-palatine ganglion and other vaso-motor nerve centres. Belladonna acts specifically upon these centres which supply the glands and follicles of the mucous membrane. It not only arrests the normal supply of blood, but also an excess of blood to the inflamed tissues, and, by dilating the arterioles and arteries in other parts of the body, causes a determination of blood from the tissues involved, arresting inflammation, aborting the first and second stages of catarrh, and lessening the duration of the third. The physiological action of belladonna and its alkaloids is to cause a dryness of the Schneiderian membrane, pharynx, palate, tongue, larynx and trachea. In the second and third stages of acute catarrh this is a great desideratum. The effects of belladonna and its preparations are much increased by opium. Dose of the tincture of belladonna is grs. viij to xv for first dose, then gtts. iv to viij, repeated every two, four or six hours *pro re nata*.

"The power of aconite to control inflammation and subdue the accompanying fever is remarkable. It will sometimes cut short an inflammation but will not remove its products, though by lessening inflammation it will prevent their formation, so saving the tissues from further injury." It is, therefore, in the early stages of inflammation more conspicuously serviceable, as in the first and second stages of acute catarrhal inflammation of the upper respiratory tract. "Aconite diminishes both the sensibility of the terminal ends of the nerves supplying the mucous membrane and the skin also. Moderate doses lower the pulse and respiration by its influence on the muscular substance of the heart or on the contained ganglia, and on the respiratory centres." Aconite increases the flow of blood to the skin, rendering a dry skin moist and perspiring; in this way heat is lost by radiation and evaporation. Fothergill states, aconite dilates the arterioles and greatly increases the capacity of the vascular system, and by this means drains the blood away from the inflamed organ; in fact, this drug bleeds the patient into his own vessels. As the vessels are already paralyzed leading to an inflamed organ, aconite does not augment the supply of blood to it.

In the first stage of acute catarrh, when rigors, a dry hot skin, dry mouth, tongue and nares, headache, pain in throat or nasal region, restlessness, lassitude, aching pains and stiffness, and photophobia exist, the quickened pulse and respiration become less frequent, and the temperature lowered, by the use of aconite in from six to forty-eight hours, and remain normal; in a few hours the skin becomes moist, and followed in a short time by free perspiration. On rhinoscopic and laryngoscopic examination it will be observed that the local manifestations of acute catarrhal inflammation will have subsided as magically as the constitutional.

How should aconite be given to have the desired effect? It must be given at the inception of the disease; every hour delayed is so much valuable time lost, as the malady will soon pass from the first to the second stage, or from the latter into the third. Half to one drop of the tincture should be given every ten minutes for two hours, in a teaspoonful of water, then hourly; or two or three drops every half to one hour for two hours, then every two or four hours. When there is a weak pulse and much prostration small doses must be given at longer intervals. Ringer states that in the treatment of inflammations the thermometer and aconite should go hand in hand. No acute inflammation can exist without preternatural heat. If the temperature is normal aconite is not indicated, otherwise it should be given. When the catarrhal inflammation is quite severe it is better to combine aconite with belladona, both given in small doses frequently repeated.

In acute catarrh attended with much preter-

natural heat, headache, myalgia or orbital neuralgia, antipyrin in from three to five or ten grain doses, repeated every one or three hours, has proven to be a valuable addition to the physician's armamentarium of drugs.

Cold compresses to the throat when pain exists or deglutition is painful, and changed every hour until pain is relieved, or cloths wrung out of hot water and applied every ten to thirty minutes until pain is relieved are valuable local measures. When a rhinitis, or naso-pharyngitis exists, with orbital neuralgia, headache and photophobia, great relief is given by local applications to temples and forehead of menthol, either with the pencil, or menthol ʒj–ʒij, ethyl bromide or alcohol ʒij–ʒiv, made into a solution and painted over the pain. Should a catarrhal laryngitis or trachitis accompany the naso-pharyngitis, menthol applied over larynx and trachea in the first and second stages of inflammation, every four or six hours, or in the third or purulent stage blisters the size of a nickel over the larynx and trachea very materially hasten resolution. Catarrhal patients must be taught by the physician the importance of resorting to constitutional and local measures when a cold supervenes, and to abort it at once and hasten resolution, and the remedies to be used and always kept on hand. The patient when properly educated can abort a cold in from six to twelve hours when treatment is begun in the first stage, and can check it in from two to four days when begun in the second stage, and lessen the duration of the third stage.

*Local Treatment of Acute Catarrh, or Cold, of the Upper Respiratory Tract.*—Local treatment has three objects in view, viz.: 1st, non-irritation; 2d, thorough cleansing of the diseased surface with sufficient force to remove the morbid secretion; 3d, medication of diseased tissue without irritating or treating healthy tissue.

(In treating locally acute naso-pharyngeal catarrh the old adage, "*ubi irritatio, ibi fluxus*," must be kept in mind by both patient and physician.)

Treatment of the first stage should be as follows, viz.: Spraying the nasal chambers, or these and the throat, with a 2, 4, or 6 per cent. solution of muriate of cocaine, gtts. 10–30, one to three times a day, at intervals of eight hours, or absorbent cotton saturated with it and inserted into the nares and repeated every ten to thirty minutes until the desired effect is produced. Or, a 2, 4, or 6 per cent. mixture of cocaine can be made with vaseline and sprayed, after being warmed and melted, into the upper respiratory passages. Cocaine is an anæsthetic, anodyne, astringent and antiphlogistic. Vaseline is a mild, soothing astringent, antiphlogistic and aseptic, moistens the mucous lining in the first stage of acute inflammation and protects it against further injury. In this stage the mucous secretion is almost, if not entirely, arrested for the time. Bosworth states there is poured out on the nasal mucous membrane in health from twelve to sixteen ounces daily of serum. This normal secretion is not perceived in health, being rapidly vaporized by the to and fro current of respired air. Doubtless there is equally as much secretion from the pharynx, larynx and trachea in health. When these organs are inflamed, in the first stage of acute catarrh, this secretion is arrested, and vaseline supplies its place and is either absorbed or oxidized, anyhow it is non-irritant, soothing and protective. Liquid applications to an acutely inflamed mucous membrane causes it to absorb moisture and the disease becomes aggravated, cocaine used locally will check a cold in from one to three days, and relieves hyperæsthesia, pain and reflex irritability at once. All local applications should be made with vaseline for the base, melted and liquefied, and sprayed while warm. Equal parts of vaseline and glycerine are very effectual in the first stage of catarrhal inflammation.

Very often acute naso-pharyngeal catarrh is attended with a catarrhal laryngitis, or laryngo-trachitis, and of all means that have been invented for making local applications to the air passages, Rumbold's spray-producers, Nos. 1–5, inclusive, for the naso-pharyngeal chambers, and 6–8 inclusive, for the larynx, are the best, excepting, only, Dr. A. DeVilbis', of Toledo, Ohio. His spray-producer, by turning a point, can throw the spray in the same number of directions as the Rumbold instruments. With these spray-producers the medicine can be applied warm, the temperature of the respired air, and directly to the diseased surface, healthy tissue being avoided. Not more than 7–10 lbs. of compressed air should be used to make the spray, more than this will cause irritation and pain. A rhino-laryngoscopic examination should be made before each treatment, to ascertain what part of the respiratory tract requires the most treatment, so that the surface least affected will receive the least treatment, and *vice versa*. Every physician should be able to make a rhino-laryngoscopic examination, and know by inspection the pathological states of diseases affecting the upper air passages. On entering the practice of medicine the young physician should get a laryngoscopic "outfit," and familiarize himself with it, as it will be more frequently resorted to than any other instrument in his office. Rumbold's tongue-depressor is the best as it enables the patient to hold down his tongue and gives the operator the use of both hands.

In the second and third stages of acute catarrh the following medicaments are the best:

℞ Vaseline . . . . . ʒj
Olei eucalypti . . . . . gtts iij
Acidi carbol . . . . . grs. ss–iij
℥ ft. mass.
Sig. melt and spray ʒj–ʒij.

℞ Vaseline . . . . . ℥ij
Pino Canadensis (Kennedy's) . . . ℥¼ to ss
Olei eucalypti . . . . . gtts ij–v
m̄ ft. mass.
Sig. melt and spray half to two drachms.

℞ Vaseline . . . . . ℥ij
Glycerine . . . . . ℥ss
Acidi carbol . . . . . grs. ss–ij
m̄ ft. mass.
Sig. Dose ℥ss–℥ij.

℞ Vaseline . . . . . ℥j
Iodol . . . . . grs. v–x
m̄ ft. mass.
Sig. Dose ℥ss–℥ij, melted and sprayed warm.

The indications in the second stage is to check morbid secretion, render the parts aseptic, allay irritation, and absorb the inflammatory products. The treatment of the third stage is a continuation of the second, but since there is a muco-purulent or a purulent secretion, and abrasions from exfoliation of the epithelium exist it behooves the physician to use locally aseptic and antiseptic measures which have protective and rapidly-healing virtues. Mild solutions of nitrate of silver, grs. ij–grs. v, aquæ ℥j, dose, ½ to 2 drachms, or weak solutions of bichloride of mercury, 1:5000, or 1:10,000, or tincture of iodine ℥ij, glycerine ℥ij–℥iij, or Listerine 1 part, water 4–8 parts, glycerine 1–3 parts, should be warmed and sprayed to cleanse and medicate the catarrhal inflammation, followed by a vaseline spray. Insufflations of bismuth subnitrate or powdered yellow root grs. x–℥ss combined with powdered lycopodium ℥ss after vaseline is sprayed, assists in the protection of any erosion and hastens resolution.

---

## THE PATHOLOGY AND DIAGNOSIS OF SO-CALLED PELVIC CELLULITIS, WITH SPECIMENS OF SALPINGITIS.

*Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Massachusetts Medical Society, Dec. 12, 1888.*

BY E. W. CUSHING, M.D.,
OF BOSTON, MASS.

Few diseases present a more constant and well-defined group of symptoms, both objective and subjective, than the inflammatory affection of the pelvic contents which is so well known under various names. In few diseases has the proper comprehension of the pathology, as derived from autopsies, been so long obscured by notions supposed to be founded on physical examination; in none has a just realization of the essential nature of the disease been followed by so brilliant and successful surgical measures.

Curiously enough, from early times there have not been wanting accurate descriptions of the diseases of the Fallopian tubes, as found at autopsies, but these were supposed to be affected as a consequence of pelvic inflammation, rather than as being the essential and causative factor of the latter. It required the surgical genius and success of Tait and Hégar to bring the profession to realize that the diseased and swollen tubes, involved in a mass with ovaries, lymph, and perhaps pus, as described so accurately by Bernutz and Goupil in 1857, are verily the same lumps and "effusions" which we are all continually encountering in pelvic inflammations, and which under the teachings of eminent authority have been supposed to be outside of the cavity of the peritoneum, between the folds of the broad ligament, a supposed inflammation of cellular tissue, forming a so-called "pelvic cellulitis." Verily a case of *lucus a non lucendo.*

Perhaps it will be worth while to pause here a moment and enjoy the pleasure which delighted the pedantic Wagner, that of transporting ourselves into spirit of other times and observing how wise men have thought, in order to mark our own progress:

"Es ist ein gross Ergetzen
Sich in den Geist der Zeiten zu versetzen
Zu schauen wie vor uns ein weiser Mann gedacht.
Und wie wir's dan zuletzt so herrlich weit gebracht."

In the first place, it is often supposed that the ancients knew little or nothing of uterine diseases, had no works on the subject and left all treatment of such affections to ignorant midwives.

Nothing can be further from the truth. The most important uterine diseases have always been and always will be clinically the same, although the treatment has improved with the knowledge of pathology, and the advance of surgery due to the introduction of anæsthesia and the enforcement of cleanliness.

How graphic and true is the clinical description of pelvic inflammation by the father of medicine: "If the uterus is inflamed the menses are suppressed, and the vagina is mottled with many fine veins, like a spider's web, the fever is acute and causes delirium, and the menses when they reappear are scanty and unhealthy; if the patient eats anything she vomits, and pain invades the lower part of the abdomen, and the loins, and the patient faints, and shivers through her whole body, but the belly is sometimes hard and sometimes soft, and it is inflamed and swollen."

Then comes the description of the symptoms of subacute general peritonitis, which sometimes ensues, and the severe course of which is described; to this let me add the description of the results of local examination from Mercatus, the court physician of Philip II, of Spain:[1] "If the posterior and superior part of the uterus is inflamed, there is pain in the parts around the navel, and sometimes we see them raised in a swelling, but there is worse pain in the loins and

[1] De virg. et vid. affect. et de uteri morbis, lib. ii. p. 606.

the excrements are passed from the bowel with difficulty, etc." "If the fundus is inflamed there is acute pain in the lowest part of the abdomen, so that the latter seems unable to bear any touch even externally, and the uterus is usually drawn toward the inflamed place, and this accounts for its os and collum being turned the other way. It differs from an hysterical attack in the ardent fever and intense heat of the part. If the anterior part of the uterus is affected a difficulty of urination or a stillicidium ensues, and there is severe pain in the umbilicus and the parts near and below the latter, and if the finger is placed against the os uteri it feels to the touch hard, closed, hot and retracted, especially if the inflammation is in the uterus itself or in its neck, and by the pain, hardness, and heat you will distinguish this condition from pregnancy.

But if the sides of the womb are inflamed the groins are tense, and the thighs are moved with difficulty and pain, and in some cases the leg on that side limps in walking, etc.

Then follow the symptoms of suppuration, with a graphic description of the severe cases and a description of the various ways in which the abscess breaks, the relief afforded thereby; the treatment with poultices,[2] sitz-baths, narcotics, vaginal infections, and vaginal suppositories, cotton tampons medicated with emollient and discutient decoctions, cupping and venesections, the latter only when the inflammation does not arise from abortion, nor from severe labor, or if the patient has not lost much blood.

"Universa etenim curandi phlegmones ratio in prohibitione ejus quod fit et ablatione ejus quod factum est constitit" ("For the universal method of treating phlegmons consists in preventing whatever is forming, and removing whatever has been formed.")

If resolution does not come on, suppuration is encouraged by appropriate treatment until it comes within reach, when it is to be opened after the surgical method of Ætius, which consists in cutting the integument with a knife and opening the abscess with a hot iron, placing the woman in a position favorable for drainage and washing the cut three times daily.

I have brought here several of my books in which the curious will find how various wise men have considered this subject before us. To understand them it is only necessary to remember that the uterus in general included the os externum or vulva, the vagina or sinus or cervix uteri, the os internum, now called externum, the collum or vaginal portion, as well as the tubes or cornua uteri, so called from the fancied resemblance to the horns of animals, situated on the uterus as the head; of course the tubes were well known before the description of Fallopius from whom they now take their name. The question naturally arises as to how much better off is a woman with pelvic inflammation now than was one similarly affected in the time of Philip the Second. Probably in acute cases not much better off, as far as medical treatment is concerned. The disease is the same, the therapeutics are the same, except that the surgical treatment is now bolder, surer and better, under favorable circumstances and in the hands of experts.

But it may be said that these old fellows knew nothing of pelvic cellulitis; they laid all the trouble to inflammation of the uterus and its appendages; they did not know about the "areolar tissue."

That is where they were right, and where in modern times the greatest error has arisen. It is only within the last few years that really accurate views have again prevailed as to the nature of pelvic inflammation. That the Fallopian tubes could be diseased and adhere to the ovaries and to other parts has long been known.

In his classical work, which I have here, Fallopius says distinctly that the tubes are never adherent to the ovaries unless as the result of severe disease of the uterus:

"Nunquam observare potui meatus istos seminarios conjunctos cum testibus, nisi uterus male affectus fuerit. . . . Nam si in uno latere adfuit tumor aut cancer ejusdem etiam lateris testis ita contractus et colligatus cum dicto meatus apparuit ut connati simul viderentur, at oppositi lateris sami scilicet testis non ita se habere semper visus est. Sin autem utrumque latus erat affectum uterque meatus pariter conjunctus cum teste arme reperiebatur, hœque bis aut ter ad summum vidi" ("I have never been able to find those seminal passages (tubes) joined with the testes (ovaries) unless the uterus was diseased; for if on one side there was a swelling or cancer, the ovary of the same side appeared so contracted and adherent to the said passage (tube) that they seemed congenitally united. But the ovary of the opposite healthy side never seemed to be in such a condition. But if both sides were affected each passage was found by me equally joined to the ovary; and this I have seen twice or at the most three times").

De Graaf,[3] in his celebrated work, which I show here, figures Fallopian tubes deformed and occluded at their extremities.

After De Graaf, and quoting his work and that of Fallopius, came Ruysch, of Amsterdam, who in 1725 published at immense expense his treasury or catalogue of his wonderful museum. Fortunately I am in possession of a copy, which I have

[2] Make and apply to the lower abdomen a poultice of fœnugreum, pinseed, wheat flour, boiled figs, and turpentine.

[3] A plate in the same work (De Graaf, "opera omnia," 1678), showing a tubal pregnancy copied from Vassalius, and properly interpreted, is interesting at this time. Ann. of Gyn., December, 1888.

here. In Anatomical Observations, 43, 84, and 85, "Adv. Dec.," i. p. 6, Th. ix. 15.

He correctly explains and figures the occlusion and dilatation of the Fallopian tubes and their adhesion to the ovaries, due to inflammatory processes usually following difficult labors, and insists on the consequent sterility. He relates cases of puerperal fever with autopsies where the pelvis was full of foul matter apparently regurgitated or forced through the tubes from the uterus.

He insists on the frequency of inflammatory affections, and consequent great distension of the tubes, which he says he never would have believed if he had not made autopsies on so many women.

I will not take up any more time by quoting these old authors at length, but as they are overlooked in the modern references to the subject, I have thought it well to present their books tonight. It must be remembered that these works were in their time great authority, and were continually studied and quoted; the successors of these authors in Europe have therefore always preserved a just comprehension of the nature of pelvic disease, and descriptions of the various forms of salpingitis are scattered through the works of the pathologists and gynecologists of more recent times.

A very full bibliography of the subject is given by Prof. Wylie at the end of his admirable article on salpingitis in the recent "American System of Gynecology," edited by Prof. Mann.

It is needless for me to repeat it here. It is sufficient to say that about 1884, by the writings of Marchal de Calvi, followed later by Nongt (1849), and yet later by West, Simpson, and others, the seat of pelvic inflammation was located in the areolar connective tissue which surrounds the cervix and fills out the broad ligament.

On the other hand, Aran insisted that the masses felt during life and found after death were connected with the uterus and tubes. In 1857, and later, and more fully in 1862, Bernutz and Goupil described and explained the real nature of pelvic inflammation with precision and accuracy; by the courtesy of Dr. Sinclair I present their work tonight.

It now seems difficult to understand why their observations did not have more effect on the profession, especially as the discriminating mind of Thomas[4] very early supported their views with the weight of his authority, while Emmett has always upheld the doctrine of "pelvic cellulitis," and I believe is still unshaken in his opinions.

The popularity of the works of the latter author, the authority of his personal teaching, and the influence of the men who have studied under him, combined with the fact that the doctrine as taught seemed founded on the plain evidence of the sense of touch—all these causes conspired in this country to smother the truth as taught by Bernutz, until the results of the autopsies described by the latter were supported and emphasized by the results of hundreds, ay, thousands of operations for salpingitis, where the evident "cellulitis" could be felt to disappear from the "broad ligament" as the operator shelled out a pus-tube and ovary from behind the uterus.

It is not always easy to understand what is meant by pelvic cellulitis, but as far as I comprehend the various authors, and as I previously understood the subject myself, it is as follows:

The course of cellular tissue in the pelvis is pretty well known. Something like a year ago I read before the Society, in connection with the subject of tubal pregnancy, a translation from Prandl[5] of the instructive work of Schlesinger, who, by injections of air and of liquid glue between the folds of the broad ligaments, near the tubes, showed that areolar tissue, loosely connected, ran between the folds of the ala vespertilionis up along the psoas muscle, inwards around the cervix and between it and the bladder, outward to the inguinal ring and downward between the rectum and vagina. Now this is precisely the course taken by the pelvic collections of pus in seeking for an outlet; and when, on examination of a patient, a mass is found laterally and posteriorly to the uterus, nothing is more natural than to suppose that the hard mass is in the thickness of the broad ligament, and thus entirely outside of the abdominal cavity, below the peritoneum. If the mass enlarges it would be held that the peritoneum lining the cul-de-sac of Douglas is lifted up, still leaving the "effusion of lymph" extraperitoneal. If after death the ovaries and tubes are found diseased, in many cases it was urged that these were bad cases and therefore fatal; that here the tubes or ovaries were affected because they also were between the folds of the broad ligament, and more or less connected, on one side at least, with this areolar tissue. That, however, most cases which are not fatal, and which recover without suppuration, get well because the lymph in the areolar tissue is absorbed.

If the pelvic peritoneum is inflamed, it is held to be by extension of the disease from its point of origin between the folds of the broad ligament, around the blood-vessels and lymphatics.

This, as I understand it, is the doctrine of pelvic cellulitis or parametritis. It is plausible, fascinating, but, as I believe, entirely false, except perhaps in certain puerperal cases, where a rent, extending at the side of the cervix right into this areolar tissue, may become septic like any other wound.

How then shall we explain the symptoms? If the mass or masses which we feel are not in the broad ligament, where are they? If not effusions in the areolar or cellular tissue, what are they? In

[4] Diseases of Women, 2d ed., 1869, pp. 380, 381, *et seq.*

[5] Ann. of Gyn., February, 1888, p. 224 *et seq.*

answering this I will premise that I am well aware that, in one sense, the tubes and ovaries are between the folds of the broad ligament; but when speaking here of the broad ligament I mean that part of it which comes up to the limit of the side of the tube, or to the hilum of the ovary—regarding these organs as practically in the general cavity of the abdomen, like the fundus of the uterus itself.

I answer, then, that the mass as felt is in the pouch of Douglas, behind the broad ligament, or laterally at the side of the fundus uteri, or even sometimes on one side posterior and on one side anterior to the latter.

What is the mass? It is a distended tube, or tube and ovary, which may or may not be imbedded in a mass of lymph more or less recent. In bad cases there may be pockets of serum or of pus outside the tubes, but yet within the cavity of the peritoneum, above the latter, and roofed in by coils of intestine matted together and lined with lymph, which may form a strong and smooth membrane, a sort of sac for the abscess. If the areolar tissue is entered, it is secondarily while the abscess is finding its way out along the lines above described.

The diagnosis is to be made between this condition, with its various subdivisions, and the tumors proper and cysts which are found in the same locality.

These comprise—distended tube and its complitions: hydrosalpinx; hæmatosalpinx; pyosalpinx; tubercular salpingitis; tubal pregnancy; abscess between tube and ovary surrounded by sac; serous collection in pouch of Douglas adjacent to tube and roofed in by adherent intestines; pus-pockets in the same locality as the last, but usually more thoroughly enclosed by a wall of lymph. Tumors or other possible conditions: parovarian simple cyst; parovarian papillomata; small cystic tumor of ovary; small dermoid cyst; fibroid tumors of uterus; fæcal collections; hæmatocele (intraperitoneal). Cellulitis proper: Periproctitis and perityphlitis; psoas abscess, descending; abscess around vermiform appendix, descending; infected wound of cervix and vagina. Inflammation of hæmatocele (extraperitoneal), or of tubal pregnancy (after rupture between the folds of the broad ligament).

The differential diagnosis of the above affections is often difficult and sometimes impossible without an exploratory incision. Very frequently two or more of them are combined; *e. g.*, the chief cause of suffering in a case of fibroid (myoma) of the uterus may be, and often is, a complication with pyosalpinx.

So also a tube in a state of moderate catarrhal salpingitis may, when nearly healed, become the abode of a tubal pregnancy, and this in turn may, by rupture, lead to a pelvic hæmatocele, and to severe attacks of pelvic peritonits.

It would unduly prolong this paper to discuss elaborately the subject of differential diagnosis, but there is one point in the symptoms or history of the case which always leads us to suspect tubal disease, and that is the occurrence of *fever*. The patient usually can give a very definite answer to the questions, Did you ever have inflammation of the bowels? How long were you confined to bed by it? Did any matter form and break? Then there will be a history of repeated attacks of pelvic pain with fever, of severe and repeated suffering during the menstrual periods, of lameness, backache, etc. Usually or always in old cases there is a history of repeated and fruitless attempts at mechanical assistance: the patient cannot wear any pessary; Drs. A. B. C. and X. Y. Z. have tried to fit pessaries, but they all hurt her, and often she has been very ill after the womb was "raised up with an instrument."

The patient is said to have an adherent retroversion: "her womb is grown on to the back passage," or there is an anteversion or lateralversion.

In severe cases there is a recent history of suppuration. The patient is found in bed, with the symptoms described by the ancient authors above mentioned, who, be it said, also describe at great length the hard masses which remain unless the "peccant" matters are properly "concocted" and eliminated. Or there is a fistula, continually or occasionally discharging pus; in the latter case there is usually an account of attacks of pain and fever whenever the fistula closes.

It is very difficult to describe exactly the feeling on bimanual examination; by repeated practice a certain familiarity with the pelvic organs and their relations is acquired which cannot easily be adequately conveyed in language.

The first thing observed is that the examination is painful to the patient. The uterus appears displaced: at first it seems retroverted, but by careful examination it is usually found that the fundus is anteverted and often drawn to one side, showing that the tender mass behind, and lateral to the uterus, must be something which does not belong there.

Now small ovarian tumors, dermoid cysts, and cysts of the broad ligament do not give rise to fever, and are not usually painful to the touch; the same may be said of fibroid tumors when small and sub-peritoneal; tubal pregnancy can usually be excluded, especially in chronic cases; the tumors of simple hydrosalpinx are not fixed but movable, "pelvic cellulitis," *i.e.*, inflammatory effusion between the folds of the broad ligament, is practically a myth; pelvic hæmatocele has a characteristic history and course. Therefore, by exclusion we arrive at a pretty clear diagnosis of salpingitis and consequent localized peritonitis.

Especially is this opinion confirmed when an-

other mass is found on the other side of the uterus, also tender, fixed and chronic. The only double tumors likely to be found on both sides, except distended tubes, are double papillomata of the broad ligaments and double dermoids, both of which, by their lack of fever and tenderness, and by their steady growth, soon differentiate themselves from tubes, and require an operation which settles the diagnosis.

It is often desirable, especially before deciding on an operation for removal of diseased tubes, to examine the patient under anæsthesia; the relaxation of the abdominal walls, and of the muscular floor of the pelvis, and the consequent relief of the pelvic organs from pressure, wonderfully facilitate the examination, which is completed by a rectal examination, with two fingers in the rectum, the thumb in the vagina, and the other hand on the abdomen. I may here observe that great care must be taken not to rupture the pus-tubes nor to squeeze out pus from imperfectly occluded fimbriated extremities. Such an occurrence might easily be, and in fact has frequently been, followed by a severe or even fatal peritonitis.

In such an examination the first landmark to be sought for is the fundus of the uterus; just as in the corresponding operation for removal of the tubes, we start out from the fundus to determine their position, size and attachment. In normal cases, especially under anæsthesia, the tubes can usually be felt at either cornu, forming, with the round ligaments, bodies which feel about as large as lead pencils, which can be rolled under the fingers, and moved freely about. After an attack of gonorrhœa their increase in size and hardness can often be observed long before acute perimetritic symptoms develop.

In catarrhal salpingitis, where the fimbriated extremities are occluded and the tubes are distended, they can be traced as soft, sausage-shaped bodies at the sides of and behind the uterus, sometimes quite large, but usually freely movable and not very tender to the touch.

In pyosalpinx, however, they are more apt to be fixed by repeated attacks of pelvic peritonitis; the tubes fall down behind the ovaries, as described so well by Wylie, and are glued to them; the left tube generally gets first into Douglas's pouch and keeps the other out; tube, ovary, and effused lymph form a mass of a size widely varying from that of an egg to that of the two fists or larger; on one side this blocks up the pouch of Douglas and presses on the rectum and bulges down behind the uterus; on the other it may lie further forward, even at the brim of the pelvis, where it is readily felt as a lump in the iliac region. If the tubes and the neighboring adhesions contain much pus, fluctuation may be distinctly felt, with the well known symptoms of pelvic abscess; more frequently the mass is hard or doughy; often it varies from week to week as pus and serum distend the tube and the surrounding pockets, and then are gradually absorbed again.

That is the real nature of pelvic cellulitis, and nothing is more surprising and convincing than to feel from the vagina the disappearance of a mass, supposed to be in the areolar tissue of the broad ligament, as the operator unrolls and shells out a brace of pus-tubes.

It may be said that there is nothing new in all this. Such affections of the tubes are described by Bernutz and Aran, by Kiwisch, and Ed. Martin and Klob, and by many others. That is true; but what is comparatively new is the realizing sense on the part of the profession that the tubal affections are the origin and not the consequence of the pelvic peritonitis, that the former come directly from the passage of infection from the uterus into the tubes. From this last fact results a growing appreciation of the danger of infection from gonorrhœa and from sounds and instruments. The pithy remark of Credé, "that he who does not examine a woman does not infect her," is well worthy of remembrance, both in regard to obstetrical and gynæcological work. I purposely say little as to the causes and symptoms of the disease; are they not written in all the books? It is all an infection from one cause or another.

The immense importance of gonorrhœal infection in causing tubal disease, is becoming more and more appreciated, both by the profession and the public, and the erring husband who hereafter infects his wife will receive the execration he deserves. An important duty rests on the members of the profession in duly impressing on men the danger of infecting their wives even after they themselves seem to be cured.

But it will be said that this explanation may suffice for old, chronic cases, which are operated on either for severe inflammatory attacks or for unendurable pain and loss of health. But how about the cases which are "resolved" and get well? How about a woman who "catches cold" after "local treatment" and runs through a course of cellulitis, where there is a mass in the pelvis as big as a child's head at term, the uterus fixed, the roof of the vagina hard? This cannot be a tube, neither is it an abscess, for it does not suppurate, but under expectant and soothing treatment it all goes away.

Now these cases are frequent, and in the first place very many or most of them do not get well entirely, but have a mass of adhesions and a disease of the tubes left, which cause sterility and future trouble. Some do get well, however, and bear children. What is such a mass? Is it not in the areolar tissue? No, the mass is inside the cavity of the peritoneum. It is chiefly one or more serous cysts, bounded by the peritoneum be-

low, and above by adhesions and by coils of intestines. The hardness is caused by involuntary contraction of the muscles, and by tenseness of the cyst; possibly to some extent by an infiltration of the adjacent "areolar" tissue with œdematous fluid; the origin is in the tube and the cause is the "treatment."

Another group of cases too important to be more than mentioned to-night are cases classed as cellulitis which followed labor or abortion. Here again every one, in discussing the subject, admits a puerperal "cellulitis" of the "areolar tissue," but how many are seen post-mortem. Besides the cases of acute septicæmia, thrombosis, etc., when there is peritonitis what is found at autopsy? Just what Ruysch found (Obs. 43, 84, 85) a collection of foul matter *in the pelvis*, the tubes diseased and similar matter in the tubes and uterus. Most of these patients die; although in some the matters are shut out from the general abdominal cavity, a pelvic abscess results which is not between the folds of the broad ligament; if this matter is evacuated the diseased tubes remain, and may give rise to continual trouble afterward. In some cases a condition of comparative comfort results, but the diseased tubes can be detected long afterwards in very, very many cases in women who never recover their health perfectly.

Very lately, Tait has operated on a series of these puerperal cases. He reported eight in June last,[6] with two deaths. J. Price (and perhaps others) has followed him in this country, having operated, as he writes me, on seven puerperal cases up to the present time, with two deaths. In all the cases there was no sign of disease between the folds of the broad ligament; salpingitis and pelvic peritonitis were what were found.

I saw myself one of M. Price's operations on a woman with pelvic inflammation after abortion, and I shall never forget the hugely distended pus tubes, large as Bologna sausages, which were shelled out, while the pelvis was full of stinking pus in pockets running up between the intestines in all directions; it was, as Ruysch said, "colluries humorum non sine magno fœtore." Here is a great field in the future for the snatching of women from almost certain death by an operation which, *if not deferred until too late*, offers a good prospect of relief.

## MEDICAL PROGRESS.

POISON IN THE BREATH.—MM. BROWN-SÉQUARD and D'ARSONVAL have reported to the Academy of Science the results of new experiments that show the poison or poisons which escape with the breath can become fatal in small quantities, even if not injected directly into the venous or arterial blood. Injected subcutaneously the fluid containing this poison proved fatal to 17 out of 18 rabbits in doses of 16–44 cc.; in two-thirds death ensued in from 12 to 24 hours after the injection. But even when injected into the rectum and the stomach the liquid may cause death, but this occurred only in 2 out of 7 which had from 24–36 cc. introduced into the stomach. According to these eminent physiologists this toxic power is not ascribable to the presence of microbes in the fluid, for it is equally poisonous after it has been subjected to a temperature of 100°. They consider it certain that the carbonic acid in the breath has no share in its toxic qualities.

The ingenious apparatus which was used for these experiments consists of a number of metallic vessels which were made absolutely air-tight. An air-pump connected with a gasometer sends a continuous current through these vessels, which are connected with one another in such a way that the current of air passes them successively. Thus and animal placed in the vessel into which the outer air enters breathes the pure air, whilst all the other animals placed in the other vessels breathe air more or less vitiated. It is evident that the last animal breathes the air that has passed through all the other vessels, whilst the second animal, for instance, breathes the air of the first vessel only. Each vessel consists of a vertical cylinder of galvanized sheet-iron, large enough to hold a good-sized rabbit; a conical funnel receives the dejections of the animal and the remnants of food and dumps them into an earthen vessel likewise air-tight. Young rabbits (from 5 to 7 weeks old) which were shut up in these vessels died rapidly, except those in the first and second vessel. In some instances the rabbits in the 7th and 8th, and even that in the 6th perished in two or three days. On an average one week killed the animal in the 4th, and a few days later that in the 3d died. The rabbits in the 1st and 2d survived for a long time and finally died accidentally. When a rabbit which was almost dying in one of the vessels, 3, 4, 5, 6, 7 or 8, was taken out it generally revived and regained its health, but only after a long time. The quantity of carbonic acid which was considerably under 1 per cent. in vessel No. 2, was generally but little over 2 or 3 per cent. in vessels 6, 7 and 8. With a more rapid current there was sometimes even less carbonic acid in the last vessels.

"By numerous experiments we have assured ourselves that pure carbonic acid may be inhaled with the atmospheric air in considerable quantities by human beings, dogs, rabbits, and other mammaliæ. We have ourselves been able to breathe from one to two hours in an atmosphere charged with 20 per cent. of $CO_2$ without being noticeably affected, and especially without any lasting effect.

[6] Ann. of Gyn., June, 1888.

"By altering our apparatus through the addition of two supplementary parts we could introduce into the cylinder the air from vessel 6 after it had been subjected to the action of sulphuric acid. The latter takes up the pulmonary poison and the organic substances (whatever they may be) which issued from the first six vessels, whilst the carbonic acid becomes free. The air passing into the two supplementary vessels is therefore free from the pulmonary poison but charged with carbonic acid. Now this air is not fatal, and we possess in this fact a proof, at the same time, of the harmlessness of carbonic acid and of the toxic power of pulmonary poison.

"In these experiments death ensued in the same way as where the liquid was administered subcutaneously or otherwise; painless and almost without convulsions. The autopsy showed that the animal died from the stoppage of the exchanges between the tissues and the blood.

"The question arises whether the death of the animals in these experiments was due to a poison issuing from the lungs. It is easily answered. The symptoms and the condition of the organs after death are the same as those found in animals to which the fluid had been administered subcutaneously or otherwise. That there exists in confined air other causes capable of affecting health we do not deny, but it seems to us, for the reason above stated, that in these experiments death was due principally, if not exclusively, to the breathing of air which had been inhaled and confined for several days.—*Journal d'Hygiène*, vol. xiv, No. 651.

ESCHSCHOLTZIA CALIFORNICA.—In 1887 STANISLAUS MARTIN endeavored in vain, in the *Bull. génér. de Thérap.*, to call the attention of physicians to this plant, which is used as a sedative in some localities. More recently TER-ZAKARIANT, at the instance of Dujardin-Beaumetz, has made an examination of it which resulted as follows: Eschscholtzia Californica, of the family of Papaveraceæ, is a shrub-like plant indigenous to North America, and especially common in California, with no less than ten slightly different varieties. (Greene.)

One hundred parts of this plant yield an average of 20 grm. of an alcoholic, resinous, dark-green extract, of a pleasant smell and bitter taste, which is perfectly soluble with alcohol, largely so in water, only partly soluble in glycerine, and insoluble in chloroform and ether. In water 100 parts of the plant yield about 15 grms. of extract. This latter is reddish-brown in color, having the same smell and taste as the alcoholic extract; dissolves in water, alcohol and glycerine, but is insoluble in ether or chloroform.

Bardet and Adrian isolated from the plant a base contained in the drogue in lesser quantity, which they think is morphine, and in larger quantity, an alkaloid, and a glycosoid. Experiments on animals made with the alcoholic and the watery extract showed that these extracts were effective only in comparatively large doses.

Doses of 2.5 gr. subcutaneously, and of 6.0 gr. internally pro kilo of animal were toxic. Smaller doses affect only the brain, the animal sitting motionless, deprived of will and entirely oblivious to their surroundings. Larger doses affect the medulla oblongata, the spinal marrow and the peripheral nerves. Constant symptoms are: general debility, torpor, acceleration of respiration. subsequent slowing of the same, complete paralysis of the extremities and slowing of the circulation. The sensory nerves are paralyzed after the motor-nerves and regain their sensibility sooner. The body-temperature is increased by the alcoholic-resinous extract and reduced by the extract when freed from resinous substances, by about 1° C.

After therapeutic experiments made with the alcoholic extract on 13 patients (chron. bronchitis, phthisis, morbus brightii, ischias, paralysis agitans, rheumatism), Ter-Zakariant designates eschscholtzia as a valuable and harmless somniferous substance, and as an analgesic extremely useful in certain cases, whose effect outlasts the time of its application and is free from the undesirable qualities of morphine. Large doses seem necessary: 2.5 to 10 gr. daily, even 12 gr. have been given.

Further experiments will be necessary to form a conclusive opinion regarding the value of this new remedy.—*Therapeutische Monatshefte*, March, 1889.

MICROÖRGANISMS IN THE GENITAL CHANNEL OF THE HEALTHY WOMAN.—WINTER publishes a careful work in which he attempts to answer the questions: 1, in what parts of the genital channel of the healthy woman are bacteria found; 2, of what kind are they; 3, are any among them pathogenic. In forty Fallopian tubes which were obtained during operations, no microörganisms were found. Of thirty extirpated uteri twenty-two were likewise found free from bacteria, whilst in eight cases they doubtless got into the uterus through previous digital or sound examinations. The cervix examinations made on living individuals showed microörganisms (cocci and bacilli); the latter largely increased in number during pregnancy. The same was true of the vagina. The inner os of the uterus forms, consequently, the border between the parts infested with bacteria and those free from bacteria. As regards the question of pathogeny, the pus cocci (staphylococci) were found in one-half of the cases in the secretions. But the experiments with vaccination proved them to be of lessened virulence, probably being weakened by the secretions of the other bacteria.

Of practical importance is the inference from

these tests that internal examinations of the uterus should be preceded by the most painstaking disinfection of the vagina and the cervix. It is shown that when substances subject to decomposition: blood, ovarian membranes and remnants of the placenta, are present in the uterine cavity, self-infection may take place through spreading of pathogenic germs from the vagina.—*Correspondenz-Blatt für Schweiger Aerzte*, March 15, 1889.

A RARE COMPLICATION IN INTESTINAL TYPHUS.—J. KARLINSKY (*Berliner klinische Wochenschrift*, 1888, No. 43) reports a case of typhus abdominalis in which, three weeks after the beginning of the disease, easily colored bacilli were found in the stools, which were nine $\mu$ long, single or arranged in chains of two or three links. In bouillon-cultures mostly 5–10 links appeared in a chain. In some of the bacilli spores could be distinctly seen. Subcutaneous injections of these bacilli killed young rabbits within two days. In the lymph of the animals, as also in the blood-vessels of the liver, the author found the same bacilli—which he takes for milzbrand-bacilli—in large quantities. Besides these microörganisms, streptococci and smaller bacilli were found in the fæces in small quantities. The patient died in thirty days from the beginning of the sickness.

The examination of the lower ileum and of the cæcum showed typical typhus abscesses, in the stomach and the remainder of the small intestine changes were found such as are occasionally seen in milzbrand. In the blood from the liver, in the spleen-veins, the veins on the surface of the stomach, in the spleen-juice, abundant milzbrand-bacilli were found. On gelatine and agar-cultures typical milzbrand colonies developed. The liver, the intestinal wall, and a part of the mesenteric glands contained large numbers of milzbrand-bacilli, whilst in the abscesses in the lower ileum and cæcum typhus-bacilli were found.

The author ascribes the milzbrand infection to the circumstance that the patient on the twentieth day had taken some milk which, as was proven on a searching investigation, had come from a cow affected with milzbrand.—*Centralblatt für Bakteriologie und Parasitenkunde*, Band v, No. 12.

ABOUT THE TREATMENT OF DIPHTHERIA WITH ACID SALICYL.—In a paper read Dec. 5, 1888, by PROF. D'ESPINE, before the Medical Society of Genf, the author explains a mode of treating diphtheria which—based on bacteriological investigations—he has pursued with the aid of Dr. de Marignac. These investigators found that Löffler's bacillus, which they consider as pathogenic for diphtheria, is killed by five minutes' contact with salicylic acid dissolved in water 1:2000. This substance is consequently used in the local treatment of diphtheritic affections of the throat, the false membranes of the naso-pharynx being irrigated every hour or every two hours with a 1½ or 2 per cent. solution of salicylic acid. The irrigation was made through the mouth by means of an irrigator or a pear-shaped syringe, so that a sharp stream of the liquid bathed the false membranes; for the nose it was deemed sufficient to pour tablespoonfuls of the solution into it; from 1 to 2 litres of the solution are to be used in the first twenty-four hours of treatment. The method of irrigation has the advantage of an energetic application of the remedy without causing injury and opening gates for infection. A few hours of this treatment are said to be often sufficient to break up the fever, and after two or three days the throat usually throws off the false membranes. An early beginning with this treatment is of importance; the author recommends, in cases of epidemics of diphtheria, to treat prophylactically cases of apparently simple angina in the same manner.

Even before d'Espine salicylic acid has been used for diphtheria, but the application of large quantities of liquid by means of an irrigator is new, and this mode of application seems to prove very effective in practice. E. Kummer, of Genf, has found the treatment decidedly beneficial in several cases, and invites further experiments.—*Correspondenz-Blatt für Schweizer Aerzte*, March 15, 1889.

CONCERNING THE ETIOLOGY OF PUS-FORMATION.—JUL. STEINHAUS, in the *Zeitschrift für Hygiene*, Bd. V, Heft 3, reports that he found in the contents of an abscess large quantities of the well-known micrococous tetragenus, whilst the bacteria usually occurring in pus, staphylococci and streptococci, were altogether missing. Steinhaus thinks, therefore, that the micrococcus tetragenus, under certain conditions, might become a cause of purulent processes in man.

The experiments which led him to take this view cannot be considered as conclusive proofs, as he failed to establish such a result through plate culture. Steinhaus made only "two tube-cultures on gelatine" directly from the pus, and thereby made the same mistake which, though often sharply criticised, is repeated over and over again. In the examination of the pus plate-cultures would now show us, perhaps, preponderating colonies of the micrococcus tetragenus, but also here and there some of the streptococcus, and would thus point out the real condition of affairs. In tube-cultures, however, the rapidly growing micrococcus tetragenus strangles the slowly growing streptococcus and deprives it of the ability to make itself known in any way, so that an erroneous conclusion becomes unavoidable.—*Centralblatt für Bacteriologie und Parasitenkunde*, Band V, No. 12.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE.

PER ANNUM, IN ADVANCE.....$5.00
SINGLE COPIES.....10 CENTS.

Subscription may begin at any time. The safest mode of remittance is by bank check or postal money order, drawn to the order of THE JOURNAL. When neither is accessible, remittances may be made at the risk of the publishers, by forwarding in REGISTERED letters.

Address
JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 68 WABASH AVE.,
CHICAGO, ILLINOIS.

All members of the Association should send their Annual *Dues* to the *Treasurer*, Richard J. Dunglison, M.D., Lock Box 1274, Philadelphia, Pa.

LONDON OFFICE, 57 AND 59 LUDGATE HILL.

SATURDAY, APRIL 20, 1889.

## INFLUENCE OF CLIMATE ON PHTHISIS.

In THE JOURNAL of last week attention was directed to the reprint edition of DR. CHARLES DENISON'S paper on the "Preferable Climate for Phthisis," read in the Section of Demography of the Ninth International Medical Congress, Washington, 1887. Attention was then directed to the chief elements that, in varying combinations, determine the special character of the climate in any given locality. The combination of these elements claimed by Dr. Denison as constituting the preferable climate for patients affected with phthisis is, purity, rarefaction, dryness, coolness, variability, uneven or mountainous surfaces, with gravelly or porous soil. The purity of the atmosphere or freedom from intermixture with foreign ingredients increases with the altitude above the sea level, and according to the observations of Miquel, becomes entirely free from bacteria or organic germs at an elevation above 2,000 metres (ft. 6,560). At 560 metres (ft. 1,700) he found only 8 bacteria to 10 cubic metres of air, while in the streets of Paris, near the level of the sea, he found no less than 55,000 to 10 cubic metres of air. The observations were all made in the month of July, 1883. It may be inferred, therefore, that the higher altitudes are very unfavorable for the propagation of bacillus tuberculosis, as well as ordinary bacteria.

The greater the rarefaction of the air, the less amount of oxygen is contained in a cubic foot, and the more active the respiratory movements become in order to supply the blood with the required amount of oxygen in a given time. It is this increased activity of the respiratory movements in breathing the rarefied air of high altitudes that tends strongly to expand the chest, and makes it specially beneficial to those young persons with chests flattened beneath the clavicles and plainly predisposed to phthisis, and to all cases while in the stage of primary unsoftened tubercular deposit. But when the capacity of the lungs is already diminished one-third or one-half by extensive tubercular infiltrations in the stage of purulent softening and hectic fever, or by the sclerosis of pulmonary tissue called by some chronic interstitial pneumonia and by others fibroid phthisis, it becomes impossible for the patient to inhale the necessary increased quantity of rarefied air, and persistence in the attempt generally hastens the fatal result. The coolness and dryness of the atmosphere generally increases with the altitude, and are usually found in coincidence with rarefaction. It is a familiar law that the dryer the air at a given temperature the more rapidly will it absorb aqueous vapor from moistened surfaces. Hence if we inhale an atmosphere already saturated with moisture it will return by exhalation in the same condition, having absorbed nothing from the moistened pulmonary surfaces. On the other hand the dryer the air inhaled the greater will be the amount of aqueous vapor and such other matters as may be in solution therein, that will be absorbed and removed with the exhaled air. That Dr. Denison is correct in claiming that cool and variable atmospheric conditions are more beneficial to consumptives and other debilitated patients, than warm and uniform conditions are, we have no doubt. Continuous heat expands the tissues and thereby causes relaxation and debility; while continuous cold constricts or condenses the structures and soon lessens the activity of all the functions. Coolness, with frequent variations within moderate limits, contributes far more to the maintenance of functional activity and strength, and thereby acts in harmony with rarefaction and dryness at high altitudes.

Without pursuing these elementary considerations further, we may suggest the following rules for the guidance of the practitioner in his dealing with the question of climates and phthisis:

1st. Ascertain by thorough physical examination the degree of development of the chest and

the actual condition of the lungs in reference to the existence of tuberculous deposits or other structural changes, their extent and stage of progress.

2. If the patient presents only a narrow chest and defective muscular development without appreciable changes in the pulmonary structures, a residence in the pure, cool, dry, rarefied and variable atmosphere of the mountains at altitudes between 4,000 and 6,000 feet, at almost any point between Maniteau in Colorado and San Antonio in Texas, with an outdoor occupation, will be most certain to establish in him a healthy, vigorous physical condition.

3. If the patient is found to have only a moderate amount of crude unsoftened tubercular deposit; or if he has deposit in the softened and suppurative stage limited strictly to the apex or upper part of *one* lung, leaving the other lung healthy, and his total lung capacity for air not diminished more than one-tenth, his chances of recovery will be secured in the highest degree by a residence in the same climatic conditions named in the preceding paragraph. The patients indicated in this and the preceding paragraph will also generally be restored by long sea voyages extending through a wide range of latitude, provided they take such daily exercises of the muscles of the chest and arms as will favor increased capacity of the chest.

4. If the patient is found to have pretty extensive tubercular deposits in both lungs, with disdinct indications of commencing softening, the chest capacity for air diminished one-fifth or more, and more or less fever, he cannot be safely sent at once to the high altitudes of Colorado, New Mexico, etc. As pure, dry and mild air as can be found at lower levels should be chosen. The more moderate altitudes found in the mountain districts of North and South Carolina, Georgia and East Tennessee for the summer, and the interior of Florida, southern part of California and some parts of Texas for the winter months, are best suited to such a patient, and will often arrest the further progress of the disease.

5. If, however, a careful examination of the patient shows extensive deposits or consolidation involving one-half or even one-third of both lungs, with suppurative cavities in both, copious purulent expectoration, hectic fever, and extreme emaciation, he should be candidly advised to make himself as comfortable as possible at his home and with his friends, if he have any, instead of exhausting what little breathing capacity he has left in a vain struggle to reach a better climate and finally perishing among strangers.

6. To whatever climate it is deemed best that a patient should go, if it is found to influence him favorably, he should be strongly advised to take up his residence there from one to five years at least. One of the most important causes of failure to get permanent recoveries by change of climate, is the persistency of patients in returning home and to the same habits and surroundings as before, as soon as the more manifest and troublesome symptoms of disease have subsided; and consequently, in four cases out of five, the disease renews its advancement after a few months.

## MILROY'S MEDIO-TARSAL AMPUTATION.

Under this title was published, in THE JOURNAL of March 30, in the columns for Medical Progress, the report of a case copied from the *Glasgow Medical Journal*, of March, 1889. The case was one of medio-tarsal amputation performed on account of severe injury of the foot, by DR. MILROY, of Kilwinning, Scotland, September 7, 1885, and reported by him to the Surgical Section of the Medico-Chirurgical Society of Glasgow, January 25, 1889. It was spoken of as a *new* operation, and its advantages compared with those of the operations of Chopart, Syme and others.

Since the appearance of Dr. Milroy's case in this journal, our attention has been called to the fact that an operation nearly identical with it, had been performed several times prior to 1874 by DR. S. F. FORBES, of Toledo, Ohio, and the operation fully described by him in a paper read at the annual Meeting of the Ohio State Medical Society in 1874. The report was published in the Transactions of the Society for that year, illustrated by a cut; and to do justice to Dr. Forbes we renew attention to his work by making the following quotations from his paper. He describes his operation as follows:

"The flaps being made as in Chopart's operation, that is by an anterior and posterior flap, one horn of which should commence on the inner side of the foot opposite the tubercle of the scaphoid bone, and the other terminate on the outer border

or tubercle of the cuboid, and the flaps, being well reflected back, the knife, a stout, straight bistoury, should be entered between the scaphoid behind and the internal cuneiform bone in front, and carried outward between the cuneiform bones and the scaphoid until the cuboid is reached. Twisting the foot well outward with the left hand of the operator will facilitate the movement of the knife along the articulations mentioned. Having arrived at the cuboid the knife should give place to the saw, when the cuboid should be sawn squarely across, and the operation is completed. Should any difficulty be experienced in passing the knife along the external cuneiform the saw can at once be resorted to, and any portion of this bone which may be left in the stump can readily be dissected out. . . .

"By examining the bones of the foot it will be seen that where the scaphoid and a portion of the cuboid is left in the stump (as in this operation I am describing) each bone has a bold prominence or tubercle on its under surface which is of great service to the patient in walking ever after, a point not to be lost sight of by the surgeon."

After describing certain items of after-treatment and modes of dressing, Dr. Forbes sums up the results and advantages of his operation as follows:

"There are several persons in this vicinity upon whom the operation I have spoken of has been performed, when wearing an ordinary shoe with the front filled with cork, whose gait and carriage are so steady that it would be quite impossible for even a surgeon to say upon which limb the operation had been performed. These persons engage in railroading, farming, etc., without crutch or cane, and with so little inconvenience, apparently, as not to notice they have suffered any loss.

"The points I seek to make in this paper are, that I propose an operation which is easier of execution than any other recognized amputation through the tarsus, that the stump resulting is as good as that left after Hey's operation, and that by reason of leaving the tubercles of the scaphoid and cuboid bones it is always better than the stump left after Chopart's operation; further, that the bony column behind the cuneiform bones should never be sacrificed to the demands of coverings except in cases of imperative necessity; and, lastly, that upon the treatment after the operation depends in a great degree the future usefulness of the limb."

The critical reader will observe that Drs. Forbes and Milroy both separate the scaphoid from the cuneiform bones, the former completes the operation by sawing directly through the cuboid, while the latter disarticulates it.

## THE ILLINOIS STATE BOARD OF HEALTH AND THE STATE LEGISLATURE.

The House of Representatives of the Illinois State Legislature appears to have developed a decided opposition to the State Board of Health, by striking out of the general appropriation bill all provision for the support of the Board for the next two years, and by a proposition that is still pending, to repeal Section 11 of the Medical Practice Act. This Section is the one prohibiting all traveling or itinerant medicine vendors to ply their vocation in the State unless they obtain a license from the State Board, for which they must pay $100 per month. From the tenor of the discussions in the Legislature, it appears that the opposition originates mainly from the idea that the Board has been interfering too much with the sacred right of the people to be *humbugged;* and with the equally inalienable right of medical impostors to obtain money under false pretenses. While we think the Illinois State Board of Health might have done more to educate the people of the State in sanitary matters by adopting some of the methods practiced successfully by the Michigan State Board, and that some of the provisions of the law could be greatly improved by judicious amendments, we can find no apology for the present line of opposition developed in one branch of the Legislature. If a State law for regulating medical practice and protecting the public health is defective, amend it. If the law is useless, repeal it. If the Board appointed to execute the law is inefficient, reorganize it. But do not adopt the disreputable method of starvation by withholding supplies.

## EDITORIAL NOTES.

DEATH OF M. CHEVREUL, the oldest, and one of the most eminent chemists of France, at the age of 103 years. A press despatch, dated Paris, April, 9, 1889, makes the following announcement:

"M. Michel Eugene Chevreul, the distinguished

French chemist, is dead. He was born in Angiers Aug. 1, 1786. Having completed his studies in the Central school of that place, at the age of 19 he went to Paris, where he was engaged in the chemical factory of the celebrated Vauquelin, who discovered in his young pupil such aptitude and sagacity that he intrusted the direction of his laboratory to him. In 1810 he was preparator of the chemical course in the Museum of Natural History, and in 1813 was appointed professor in the Lycee Charlemagne, and officer of the university. In 1824 he was made director of the dyeries and professor of special chemistry in the carpet manufactory of the Gobelins, where he had leisure to follow his favorite pursuits into detail, one of which was his investigation of animal oils, or grease. In 1823 M. Chevreul published a work on this subject, for which the Society for the Encouragement of National Industry awarded him the prize of 12,000 francs. M. Chevreul has written various scientific works, some of which have been translated into various European languages. M. Chevreul had contributed to the proceedings of scientific societies, to dictionaries, and to other works. In 1830 M. Chevreul succeeded his former master, Vauquelin, in the Chair of Chemistry at the Museum of Natural History, since which time he has become Fellow of the Royal Society of London and President of the Society of Agriculture. In 1864 he was appointed director of the Museum of Natural History for five years, and in 1869 reappointed for another quinquennial period. He was made Commander of the Legion of Honor Sept. 24, 1849."

DR. EDWARD T. BRUEN, Assistant Professor of Physical Diagnosis in the University of Pennsylvania, died of pneumonia, March 31, 1889, at the early age of 39 years. He was the author of a creditable work on the "Physical Diagnosis of the Heart and Lungs," and visiting physician to the Philadelphia and German Hospitals.

A PROBLEM IN MATHEMATICS.—If all the sources of water supply to the chain of great lakes to which lake Michigan belongs remain the same, and the present avenues of exit the same, while a new channel is cut from the lake just named southward, permitting the constant discharge of 500,000 cubic feet of water per minute, how long would it take to lower the water level in the lakes three feet, and to what extent would such change in the lake level diminish the rate of discharge through the artificial channel?

THE MEDICO-CHIRURGICAL FACULTY OF THE STATE OF MARYLAND will hold its next annual meeting in Baltimore, Md., commencing on Tuesday, April 23, 1889, and continue three days. The Annual Address is to be delivered by Prof. Wm. Osler, of the Johns Hopkins University, on the "License to Practice with reference to State Examining Boards."

## SOCIETY PROCEEDINGS.

### Philadelphia County Medical Society.

*Stated Meeting, January 23, 1889.*

THE PRESIDENT, W. W. KEEN, M.D., IN THE CHAIR.

(*Concluded from page 532.*)

DR. EUGENE P. BERNARDY read a paper on

BINIODIDE OF MERCURY. ITS ANTISEPTIC USE. OBSTETRICAL CASES.

*Case 1.*—Mrs. L., æt. 19, first pregnancy; was called to attend her (January 24, 1886) in a premature labor; she was pregnant about six and a half months; when I arrived, I found she had been delivered of a dead male child; the placenta came away in two hours; the patient did well up to the evening of January 27, when she was taken with a chill, which was repeated in three hours; when I saw her on the morning of the 28th, her skin was hot and dry, face flushed, pulse 112, temperature 102;° tongue thickly furred, abdomen slightly swollen and very sensitive; lochia offensive. Ordered quinæ sulph., gr. xx.; morphiæ sulph., gr. ¼ night and morning; poultice over abdomen, and hot vaginal injections of 1 to 4,000 solution of the biniodide of mercury every four hours; at the second injection the discharges became free from any odor. January 29, pulse 100, temperature normal. This treatment was kept up, with the exception of the large doses of quinine, to October 5, when the injections were reduced to one a day for about four days, when the patient was discharged cured.

I have confined this case since of a full-term, living child; the biniodide injections were used at once; she had a good lying-in; discharged on the ninth day, well. (The above case really belongs to my second series, but the manuscript was mislaid at the time, and found too late to be incorporated in my second paper.)

*Case 2.*—Mrs. M., æt. 35; fifth confinement;

during her pregnancy she had worked very hard, doing almost the work of a man. Was called to attend her in labor, March 18, 1886; when I arrived at her bedside I found she had been in labor since the previous day; she appeared completely worn out, having hardly any strength to bear down; the family refused positively instrumental interference. I gave two doses of the fluid extract of ergot, teaspoonful, repeated in half an hour; under its influence the child was born; the placenta soon followed.

The patient did well up to March 24, when, in the evening, she had a severe chill, which again occurred the following morning (March 25). I saw the patient on the following day; She seemed to have aged fully ten years; her face was drawn, and of a deep yellow color, eyes bright and sparkling with delirium; pulse 140, temperature 105°; the abdomen was immensely swollen, and could not bear to be touched, more especially on the right side. Diagnosed metro-peritonitis. Lochia arrested. Ordered quiniæ sulphatis, gr. xx, night and morning; morphia sulphatis, gr. ¼, whenever pain was severe; hot poultice over the abdomen, hot vaginal injections of 1 to 4,000 solution of biniodide of mercury. March 28, pulse 120, temperature 101°; lochia returning, abdomen not so sensitive. This treatment was continued up to March 31; the abdomen now allowed of closer examination; in the right inguinal region could be detected a large mass; vaginal examination showed the uterus bound down and completely surrounded by lymph. Dr. W. Goodell, being called in consultation, verified the diagnosis. The biniodide injections to be continued; internally, quinine sulph, gr. iij three times a day, besides an alterative tonic. The patient gradually recovered her health, without any additional treatment.

In this case the injections of the biniodide were constantly used for over a space of three weeks, first every four hours, then three times a day, then once a day, without the slightest systemic action of the drug occurring.

*Case 3.*—On July 11, 1886, I was asked to see Mrs. W., in consultation with her family physician; on entering the house a most sickening odor struck my nostrils; it reminded me of uterine cancer in its last stage; the more I advanced, the worse the odor became; at last I reached the room and bedside of the patient; of all odors I never want to smell the like again; as the nurse remarked, it was worse than decayed carrion; how the patient lived through such a condition was simply miraculous.

I found she had aborted about two weeks previously, and had declined any interference in regard to extracting the placenta, saying, "it will come away." On examination, I found the vagina full of sticky, horribly-smelling, broken-down placental tissue, the mouth of the uterus opened, the uterus full of the same kind of material as found in the vagina; the patient declined the use of any instruments, so I broke down and pulled out all that came within reach of my finger; I then washed out the uterus with a hot 1 to 4,000 solution of the biniodide of mercury; not yet satisfied, I washed out the parts with another quart of the solution (1 to 4,000, until the water came back clear.

I did not see the case again, and, in answer to a letter to the attendant physician, I received the following:

"Philadelphia, May 20, 1887.

"*My Dear Doctor:* I am glad to inform you that Mrs. W. did very well. The *iodide of mercury pellets* acted like a charm. There was no unpleasant odor attached to the discharges after we began their employment. . . . . I have been an ardent advocate of potassium permanganate, but I am now a convert to the biniodide as an antiseptic."

*Case 4.*—Mrs. H., primipara, æt. 30, fell in labor November 18, 1886. On my arrival at her bedside I found she had been in labor for some time, the mouth of the uterus wide open, bag of waters unruptured, vertex presentation. On making abdominal palpation, detected at once a twin pregnancy. After a somewhat lingering labor the first child (boy) was born. On examination, I found the second child (girl) presenting with vertex left posterior. The head came down very slowly, and, on the solicitations of the patient and family, the labor was terminated with forceps. The patient did well up to the evening of the second day, when, about midnight, she was taken with severe frontal headache and chills. I saw the patient in the chill; half an hour after her temperature was 104°, pulse 140; delirious. Ordered quinine sulphat., gr. xx, at once, and repeat next morning. Next day (November 21), temperature and pulse the same, completely out of her mind; lochia almost ceased flowing, and what was present was offensive; abdomen extremely sensitive to the touch. Ordered the quinine to be continued, gtts. x tr. digitalis four times a day, hot flaxseed-meal poultices over abdomen, hot injections in the vagina of 1 to 4,000 biniodide of mercury every four hours. The following day the lochia returned normal. The condition of things remained about the same up to November 25, when the symptoms were improved. The patient was discharged well December 4, 1886.

(The following case is the first patient on whom I used the biniodide of mercury injections, and whose history is given in my first paper, June 4, 1885.)

*Case 5.*—Mrs. D., third confinement (being compelled to leave the city, she fell into the hands of another physician), fell in labor September 6, 1886. After a lingering labor she was delivered

of a stillborn child. On the second day, as far as I can learn, all the symptoms of an attack of puerperal fever set in; she remained very sick for several days. No vaginal injections of any kind were used. When I saw the patient, on September 19, 1886, she was suffering with an extremely tender abdomen, more especially on the right side, on which side could be detected a small lump. Vaginal examination disclosed the uterus partially surrounded by lymph. Discharges from the vagina very offensive. Pulse 100, temperature 101°–102°. Nothing could be retained on the stomach; as a drink, frozen champagne was ordered. Quinine sulphate, gr. x, once a day; equal parts of ungt. hydrarg. and belladonna to be rubbed over the abdomen once a day, followed by hot poultices, hot injections of the 1 to 4,000 biniodide three times a day. My following visit found my patient improved, and in a week was discharged, but it was some time before she regained her usual strength.

On November 1, 1887, I delivered the above patient, after an easy labor, of a large female child. Immediately after the placenta came away I washed the uterus out with a 1 to 4,000 injection of the biniodide. The injections were ordered to be used three times a day throughout the lying-in, which was perfectly normal, and the patient discharged, well and strong, on the ninth day.

*Case 6.*—Mrs. C., æt. 19; first pregnancy; was called to attend her on the morning of August 19, 1888. After an easy labor she was delivered in the afternoon of a large male child; the placenta came away in about twenty minutes. The following day the patient was doing well, but had not been washed, and the odor in the room was very disagreeable. On my following visit I found the patient in a high fever, temperature 103°, pulse 130, full and quick; tongue dry and chippy. The skin from the posterior part of the vulva back to beyond the anus was raw and covered with minute bloody points; abdomen very tender; lochia, what there was, extremely offensive.

On close inquiry I found that the mother of the patient, who was supposed to be nurse, had gone on a drunken debauch since the birth of the child, no doubt celebrating her "grandmotherhood." The patient was placed at once in charge of a competent nurse; hot poultices were ordered to the abdomen; quinine sulph., gr. v, morphia sulph., gr. ¼, every four hours; hot injections in the vagina of 1 to 4,000 biniodide of mercury every three or four hours. Equal parts of zinc ointment and Goulard's cerate were applied over the raw surface.

August 24, pulse 110, temperature 101°; lochia coming freely and without odor. August 26, pulse 100, temperature 99; 4 P.M., pulse 100, temperature 101°. Condition better, treatment continued; patient discharged, entirely cured, September 1, 1888.

With the three cases reported in my first paper, eight in my second, and the six cases just detailed, in all, seventeen (obstetrical) cases in which the biniodide of mercury had been employed, gives us, certainly, sufficient data to draw positive conclusions.

### ABDOMINAL ABSCESS INTERCURRENT WITH TYPHOID FEVER.

*Case.*—On April 20, 1887, I was requested to see Mary B., aged 5 years. The little patient had been ailing for the past week, suffering from constant frontal headache, very feverish, loss of appetite, and having a diarrhœa. I found her in bed, with a temperature of 103°, very quick, compressible pulse, tongue dry, and a number of rose-colored spots over the abdomen and chest. The case was running the ordinary course of typhoid fever, when, on May 5th, the child was taken with a sudden, sharp pain in the right iliac region; my visit found the child suffering agonizing pain in the abdomen, which was tense and swollen; in the right iliac region could be felt a lump the size of an egg; under appropriate treatment the acute pain somewhat subsided. On May 8th my attention was called to the navel, which had become red, inflamed and pouting; on touch a feeling of fluctuation was imparted to the finger. May 10th, the child passed from the bowels a large quantity of pus; the angry appearance of the navel disappeared, all acute symptoms seemed abated. On my visit of May 12th I found the navel again inflamed, with positive indications of pus underneath; the following day it broke, discharging about a cupful of pus. I now suggested a consultation in regard to the advisability of an operation. It was declined. Same condition continued up to the first of June; the child by this time had become greatly emaciated, constant discharge of pus from the navel, and symptoms of septic poison were commencing to show themselves. At last, on June 12th, consent was given to an operation. June 13th, Drs. Allis, F. Elder and C. Reed were present. The patient was etherized by Dr. Reed, after a close examination, and taking the weakened condition of the child into consideration, and also that the abscess cavity having made an opening at the navel, it was decided that, instead of opening the abdominal cavity, a counter-opening in the left iliac region be made and a drainage-tube extending from the navel to it be introduced, and the abscess cavity washed out. I washed out the abscess cavity through the tube with a two-quart solution of 1 to 4,000 biniodide of mercury; the abdomen was then covered first with biniodide gauze, over which was laid a layer of biniodide wool, all held in position by a bandage that had been washed in a 1 to 4,000 solution of the biniodide of mercury. The abscess cavity was ordered to be washed out morning and night with a 1 to 8,000 solution of the biniodide; the child

rallied well from the effects of the ether. While washing out the cavity, on May 17th, a piece of straw came through the drainage-tube. May 22d, discharge of feces through the lower end of the of the tube; which occurred two days in succession; for the following ten days, when the child partook of food, more especially if this was an egg, within a half hour some of it partially digested would appear at the end of the upper part of the tube; if the discharge occurred later than a half-hour it would appear at the lower end of the tube; this clearly demonstrated a fecal fistula in connection with the abscess cavity. Gradually all discharges ceased; and the tube was taken out July 23, 1887; a week later both openings were closed, but it was several months before the child could resume her ordinary diet; apples would inevitably bring on severe colic.

None of us at the time of the operation went further than to "hope" that the little patient would get well. The case demonstrates well the antiseptic properties of the biniodide. It was an extremely warm month, and, with the exception of the two or three days on which the feces passed down through the tube, the odor of the discharges was held in abeyance.

*Double Laceration of the Cervix.*

*Case.*—Mrs. F. had a large, double laceration of the cervix following a natural labor. I first saw the case in May, 1885, and advised operation. Operated October 5, 1885. Extensive denudation had to be made; fourteen silver stitches were necessary; hot water was used to cleanse the parts during the operation. On the second day a very offensive bloody discharge occurred. The vagina was washed out with a hot 1 to 4,000 solution of the biniodide of mercury three times a day; at the first injection all odor disappeared, and did not return throughout the rest of the treatment; the stitches were taken out on the tenth day, with perfect union.

*Abscess of Right Foot.*

*Case.*—In February, 1887, I was called to see Master McG. About a week previous a heavy box fell on his foot; painful at the time, but not painful enough for him to give up his work, he continued to work up to February 10, 1887; on the previous evening his foot became swollen and painful; under poultices the inflammation centred, and on February 20, the abscess broke. The opening was stubborn to heal; offensive pus was discharged; every day I injected the cavity with a 1 to 2,000 solution of the bichloride of mercury and packed; this treatment was kept up for ten days without any change; the bichloride was then changed to a 1 to 4,000 solution of the biniodide of mercury, the discharges were made pure, and in the course of another ten days the opening closed, but the foot remained tender for several weeks.

*Abscess Extending from the Right Axilla down the Right Side to One Inch below the Floating Rib.*

*Case.*—W. S., æt. 30, barber, of scrofulous habit, somewhat dissipated, having a wart on the right middle finger, picked it with his fingernails; the result was an acute inflammation of the entire arm. I saw the case July 16, 1888; under cooling applications, the inflammation soon abated. About July 21, 1888, the right side, extending from the axilla down to midway between the last rib and the crest of the ilium became intensely inflamed; the pain was excruciating, and large doses of sulphate of morphia gave only momentary relief; large flaxseed poultices liberally sprinkled with laudanum were applied. On the 24th I detected fluctuation at the lower border, made an exploratory incision, and obtained half a cupful of fœtid pus and broken-down blood; this gave slight relief. On the 26th the pain returned tenfold; the same evening, the patient having been etherized by Dr. S. Solis-Cohen, I enlarged the previously made incision to three inches, and about half a pint of extremely fœtid pus was discharged; the finger was then introduced, and two encysted pus sacs, situated at the edge of the scapula, were ruptured, and another half pint of pus was discharged; the cavity was then washed out with a 1 to 4,000 solution of the biniodide of mercury, a drainage tube introduced, flaxseed poultice applied, and over all a layer of biniodide wool.

Next day I found the patient had had a good night's rest; I removed the poultice; cavity to be washed out three times a day with the biniodide; drainage tube taken out on the fourth day, and within a week the case was discharged well. It is hardly necessary to state that good nourishment, iron, and quinine were ordered. After using the biniodide no odor was perceptible in the discharges.

*Three Cases of Carbuncle.*

*Case 1.*—April 23, 1887, I was asked to see Mrs. P., æt. 72, and found her suffering with a carbuncle on the back of the neck, six inches long and four inches wide. It was riddled with a number of suppurating points; on the previous day the patient had been given up by her medical attendant as incurable. On Sunday, April 24, 1887, after the patient had been etherized, the wound, instruments, and sponges were made antiseptic by being washed with a 1 to 4,000 solution of the biniodide, after which a crucial incision was made and all the hardened tissue dissected out, down to healthy tissue, thoroughly washed out with the biniodide, and a flaxseed meal and charcoal poultice applied; the sore to be well washed three times a day with the biniodide, when a fresh poultice was applied. Internal treatment, quinine, and full diet. In

twenty days the patient was discharged well. The disagreeable odor in this case was not entirely dissipated, but was held under control.

*Case 2.*—Mr. B., coal merchant, aged 40. Carbuncle in right shoulder, size of an egg, hard, indurated, extremely painful to the touch, and a point of suppuration at the centre; the case was seen April 7, 1888. The next day, after the patient had been etherized, I made a deep, crucial incision, and dissected out all the hard, indurated tissue; the same treatment was used as in Case 1. No odor connected with the discharges. Patient discharged, cured, in two weeks.

On October 20, 1888, I was again asked to see the above patient. I found him suffering from an attack of herpes of the back of the neck, which was, in a few days, followed by a number of abscesses, two of them resembling small carbuncles. A charcoal poultice was applied, and in three days all the abscesses were opened, but during the following week there seemed to be no change for the better. I then ordered a piece of linen to be saturated with a 1 to 4,000 solution of the biniodide and applied to the surface, and over this a flaxseed-charcoal poultice; within 48 hours the angry appearance of the abscesses and skin abated, and in four to five days more all inflammation had disappeared, when the patient was discharged.

*Case 3.*—J. E., aged 69, was taken sick about three weeks previous to my seeing him. It first commenced with a painful tumor on the neck. When I saw the case (July 19, 1888), the entire surface from the superior curved line of the occipital bone down to the seventh cervical vertebra and from ear to ear was one immense, suppurating surface, covered with a thick, yellowish green membrane. The discharges were highly offensive. Pulse quick and compressible; slightly delirious; tongue covered with a thick, black, highly offensive membrane. Ordered a piece of linen to be saturated with a 1 to 4,000 solution of the biniodide and applied over the surface, and over this a charcoal-flaxseed poultice every three hours. The odor was held in abeyance. This treatment was continued for about ten days, when the surface became clear of all adventitious membrane. Poultice was continued; carbolic acid was ordered in place of the biniodide. Patient discharged, cured, September 20, 1888.

Dr. S. Solis-Cohen saw the case for me in August, and we concurred in one prognosis, which was death; but we were more than agreeably surprised.

### BINIODIDE OF MERCURY WOOL AS AN APPLICATION OVER THE CHEST IN PULMONARY TROUBLE.

When, in the winter of 1886, I first ordered the chest of a child suffering with catarrhal pneumonia to be enveloped in a layer of the biniodide of mercury wool, it was simply to overcome the disagreeable matting of the cotton. The child, previously to its use, was very restless, and seemed to suffer pain. On the following visit I found that the little patient had had its first quiet sleep since the commencement of its sickness; since then I have almost entirely discarded the use of cotton. The results in a number of cases lead me to believe that there must be something more than the warmth of the wool. Can it be that the heat of the body disengages the biniodide, and as the consequent result, the patient is constantly surrounded by an antiseptic atmosphere?

In a case operated upon for cancerous constriction of the bowel, by Dr. Charles B. Penrose, the patient, about the fourth week, was seized with a sharp pain in the right side below the nipple. Counter-irritants did not relieve her. On auscultation, crepitant râles were easily detected in the lower right portion of the lung, under the point where the pain was complained of. The side was enveloped in biniodide wool, and within twelve hours the pain had entirely disappeared. In the neuralgic pains always present in a case of phthisis I have found the wool to invariably diminish, if not entirely dissipate the pains, and the expectoration seems easier and in smaller quantities.

My attention was called to the following by my office pupil, J. N. England: "Biniodide of Mercury Pulverization for Tuberculosis" (*American Journal of Pharmacy*, October, 1888). Miquel and Rueff's formula is given by the *Arch. de Phar.*, September 5, 1888, as follows: Biniodide of mercury and iodide of potassium, of each 1 gram; distilled water, 1,000 grams. The solution is stable. At the beginning 10 c.cm. are sprayed once daily, to be increased to 25 c.cm. twice daily. The larger portion of the liquid should be inspired. It reaches the lungs, says the author, but salivation does not follow, even after months of treatment. The sputa changes in character and diminishes in quantity; the number of microbes is lessened, but these organisms rarely disappear completely. The cough increases at first, and afterward subsides.

If my theory of the disengagement, by heat, of the biniodide from the wool be correct, its action will readily be explained by the above experiments of Miquel and Rueff.

### DISINFECTANT IN THE ALVINE DISCHARGES OF TYPHOID FEVER.

For the past two years I have used the pellets of the biniodide dissolved in the alvine discharges of typhoid fever, and the results have always been satisfactory.

In the spring of 1886 I treated an extremely bad case of typhoid fever. The patient was broken down from dissipation, having had, about two weeks prior to his illness, an attack of delirium tremens. The alvine discharges numbered from twenty to thirty a day, and were highly offensive;

chloride of lime and different forms of chloride and sulphate of iron were used without any diminution of the sickening odor. I then ordered two (1 to 4,000) pellets of the biniodide of mercury to be dissolved in ½ pint of water and placed in the bed-pan, to be renewed every time the pan had been used by the patient. The odor was completely dissipated, and kept so.

In another case the bichloride of mercury pellets were used without success; the biniodide pellets gave the desired result. In a case of labor which, at the end of the lying-in, terminated in an attack of typhoid fever, the nurse used the biniodide pellets on her own account in the bed-pan; there was no disagreeable odor throughout the course of the disease.

The description of the action of new medicinal preparations or new properties to an old medicine necessitates tedious histories of cases; this must be my excuse for dragging through such dry details.

It is not my intention to present to you the biniodide of mercury as the one and only infallible antiseptic; I simply present my results, and have tried to give impartial histories, without exaggeration, simply as they have occurred. But the action and results of the biniodide of mercury fully strengthen my belief in its stronger antiseptic value and non-irritating properties over the bichloride.

221 South Seventeenth St.

DR. FRANK WOODBURY: Since Dr. Bernardy read his previous communication on the use of this agent in obstetrics, I have resorted to it in several cases where symptoms of septicæmia appeared, and where the lochia were offensive. In one case of placenta prævia, where there were offensive discharges, and there was danger of premature labor, I found that the use of this agent in the strength of 1:4,000, corrected the fetor, and the patient escaped premature labor. I subsequently lost sight of her, but I suppose that delivery has since taken place.

I have two criticisms to make in regard to these so-called pellets of biniodide of mercury.

In the first place, they are not pellets, and, in the second place, they do not contain the biniodide of mercury. They are really troches, and their appearance is so inviting that they might be taken by children, or persons not familiar with their dangerous properties, as confectionery. I think that if they were really pellets, or if they were formed in the shape of bacilli, divided into ten portions, so that by breaking off one portion the proper amount of the agent would be secured, the danger would be lessened.

In reference to the second criticism. The biniodide of mercury is not soluble in water. It is soluble in an excess of bichloride of mercury, or in an excess of the iodide of potassium. The preparation is really and iodo-hydrargyrate of potassium. This is really Neisser's reagent, which has been used as an excessively sensitive agent for the detection of alkaloids, and for the recognition of ammonia and compound ammonias.

I have one thought to offer, which seems suggestive: The value of Neisser's reagent consists in its power to precipitate alkaloids, and to decompose compound ammonias. Now in these cases of bacilli found in offensive lochia and suppurating cavities, the bacilli are probably accompanied by the products of their growth and multiplication. These resemble ptomaines, and are, properly called leucomaines. Philips, of Edinburgh, found that by injecting into animals a watery extract obtained from the sputa of consumptives, and from other tubercular products, he produced the ordinary symptoms of phthisis, fever, emaciation, loss of appetite, and strength, and progressive decline of the powers of life, and finally death. Now, it is probable that these substances, which are alkaloidal in character, are precipitated by Neisser's reagent.

We cannot at this time enter into the question why certain agents are antiseptic and others are not, or why one should be more antiseptic than another. This is a matter of experiment. We do know, however, that Neisser's reagent has for a long time been used in the laboratory for the precipitation of alkaloids, and this fact interested me in this connection as possibly offering an explanation of the effect of this agent in the treatment of suppurating wounds and of offensive lochia.

DR. E. P. BERNARDY: From the start I objected to the shape of the pellets, thinking that they looked too much like candy, and I think that there will soon be a change, so that this danger will be avoided. The pellets of bichloride look very much like chlorate of potassium lozenges, with the exception that the word "poison" is stamped on them.

In regard to this being a double salt. This was the first thing that struck my attention. When I first used this preparation in 1884, I dissolved the biniodide in alcohol. This was found to be inconvenient, and through the kindness of Mr. Hayes, who allowed me the use of his laboratory, his assistant and I worked up this subject. We added iodide of potassium, and then found that the slightest moisture imparted to one pellet was enough to destroy the entire bottleful. We then decided to add the muriate of ammonium, which prevents this chemical reaction until the pellet is thrown into water. The pellet goes in as the biniodide of mercury, and the iodide dissolves it, but before the change takes place it has been used upon the patient.

In regard to my use of this preparation. I have studied it faithfully, and have tried to look upon the cases in an unbiassed way, and to give

a fair history of them. I have sometimes first used the bichloride, and it has not fulfilled the intention as the biniodide has done.

DR. JOSEPH PRICE presented an

EXCEPTIONALLY LARGE OVARIAN ABSCESS.

A few years ago this specimen would perhaps have been considered unique. Only a short time ago abscess of the ovary and very large pus tubes were looked on with considerable doubt. This was particularly true of abscess of the ovary. Some operators now could, perhaps, put on record more cases of ovarian abscess than could be found in all the old records. This was an enormous abscess of the ovary, probably as large as a child's head, and filled the pelvis completely. The condition of affairs was such that would a few years ago have been described as a pelvis filled with mortar, and where we were satisfied that there was simply rigidity of the vaginal vault.

I saw the patient from whom this was removed for the first time last evening. The diagnosis made by the physician was pelvic abscess or a large collection of pus in the left ovary or tube. There was but little doubt in my mind as to the correctness of the diagnosis. The pulse was 140, the temperature 103°. I decided to operate this morning. It would have been better to have operated last night if I had been prepared. The abscess extended above the pelvic inlet. There were adhesions to all the viscera, to the omentum, and to the small and large bowel from the vermiform appendix to the sigmoid flexure.

I present this simply as a specimen of exceptionally large ovarian abscess. This is the second case that I have had within a few days. The first one was not quite so large. The tube in this case was large and tortuous, and had a sausage like feel.

There is one point of interest, and that is, with reference to the character of the fluid that we sometimes find in the pelvis—for instance, in the tubes. If fluid presenting the same characters were emptied from any other portion of the body, as from the brain, axilla, or popliteal space, nothing would be said about the character of the fluid; it would be regarded as pus.

---

## Massachusetts Medical Society, Suffolk District.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE

ALBERT N. BLODGETT, M.D., SECRETARY.

*Stated Meeting December 12, 1888.*

Dr. John A. Jeffries presented a short article entitled *A Good Bread for Diabetics, containing Less than Five per cent. of Starch.*

DR. E. W. CUSHING read a paper on

THE PATHOLOGY AND DIAGNOSIS OF SO-CALLED PELVIC CELLULITIS, WITH SPECIMENS OF PYOSALPINX.

(See page 551.)

DR. SINCLAIR: I do not belong to the surgical section of those who treat disease of this kind. I have never operated, and consequently can say nothing at all in that direction. I have more or less acquaintance with the medical aspect of so-called pelvic cellulitis or peritonitis from the time when I was a student of Dr. Simpson, of Edinburgh, who first opened my eyes to this disorder, and I became deeply interested in it from the first. I think I was the first to describe a case of pelvic cellulitis as such in this city or State. The discussion on that occasion was very interesting. The late Dr. Jackson rather doubted the possibility of there being a sufficient amount of cellular tissue about the junction of the neck and body of the womb with the broad ligament to have allowed such an amount of infiltration as was described in that case. Suffice it to say that we regarded it as abscess of the broad ligament. It was within ten days after confinement and followed within about three weeks by a discharge of pus through the rectum. I think it was 28 years ago. Since that time I have studied it as far as I could both from touch and observation, but I have never had an opportunity of seeing the post-mortem examination of such a case except in one instance. Probably twenty cases or more came under my observation as physician of the City Hospital, but this one showed most clearly what had already been written and published by Bernutz in his famous work on pelvic peritonitis and uterine diseases. That case was one of tubercular disease of the fallopian tube, and there were also, I think, some tubercles deposited in the interior of the uterus. At that time I became a convert to the Bernutz and Goupil theory, which was entirely contrary to the one received from Prof. Simpson. It seemed a revelation—like being born again—to accept the theory that this condition of things was intra-peritoneal.

In the Boston City Hospital Reports, vol. i, there is a record of some twenty-one cases of pelvic cellulitis, or "peri-uterine inflammation," inasmuch as I think that term would cover the ground in these obscure cases better than "pelvic cellulitis." The history and the termination would conform much to those cases read by Prof. Rosenwasser. I have no doubt that the conclusion now reached by gentlemen at home and abroad—surgeons and laparotomists, that the best treatment of a large number of these cases has been discovered in the removal of the diseased organs, which are generally the ovary or fallopian

tubes—is the correct one. There are certain cases, however, of true *pelvic cellulitis*, but those generally follow confinement and are septic in their nature.

We have a mild form of pelvic peritonitis frequently met with in girls—recurrences of sharp pain; they are "laid up" for a day or two, and these recur and keep recurring, but very little attention is paid to them; still they may mean a great deal.

The subject is intensely broad. I do not know of another in the whole domain of gynecology that is wider and more interesting; and, as I said in an introductory note in my paper in the Hospital Reports, I believe that 50 per cent. of the disorders of women which we come in contact with are due to some kind of peritonitis, some localized pelvic peritonic trouble. I know that at the time I was laughed at for such an assertion, but I think, instead of 50 per cent., I should set it higher to-day.

Dr. S. C. Whittier, President of the New Hampshire State Medical Society, said: I have been very greatly pleased with Dr. Cushing's paper and the explanation of the cases that he has given us. But one thing which I think should impress our minds more than perhaps almost any other, is the getting away from, or losing sight of, the idea of pelvic cellulitis. I have come pretty thoroughly to the belief that we really get salpingitis instead; and I now should never examine a typical case of what we call "pelvic cellulitis" without expecting to find salpingitis, and I don't think I should probably be mistaken.

I have had quite an extensive opportunity, under the guidance of Dr. Cushing, of examining almost all of the patients from whom these specimens were removed, and have seen a great many of his operations, and I certainly have been very highly edified and instructed.

Dr. John Homans: I am much interested in this very large display of specimens of diseased tubes; it brings the fact to the front again that we owe this to Mr. Tait that he first called our attention to this condition of things.

A few weeks ago I had a case much like some of these. The woman had been for seven years an invalid. She was the wife of a railroad engineer unable to employ a servant. She was not able to do much, and had been a good many months in the hospitals. Life was not a burden to her, but still hardly worth living without being able to do anything. On examination, I found in the left iliac region a bunch about as large as a pear, and at the operation I had to go through the mesentery to make an opening into the sac, which I finally, after considerable difficulty, removed. It was the left ovary and tube. She had a drainage-tube inserted, and did very well. The other day, several months after the operation, she called to see me. She was able to work and enjoy herself.

It seems to me that the treatment by laparotomy is the right one. The disease has been going on for some time in many cases, and it is pretty hard to keep a person waiting who is unable to do anything.

Another case I operated on with considerable hesitation, because it was my first operation. It was one of those abscesses connected with the rectum, and I feared I should have a fæcal fistula. The uterus was displaced to the right and fixed, and when the abdomen was opened I found a tumor bulging out on the left side beneath the broad ligament, beneath the peritoneum, and with the the intestines above it. I aspirated, enlarged the opening, putting in a glass drainage-tube. The woman was better for the time being, but whether it was a permanent cure I do not know. No fæcal fistula followed.

Of course all these improvements come from the enlarged practice in ovariotomy. As the operation was introduced by Sir Spencer Wells, and the familiarity of the abdomen obtained by ovariotomists, gradually surgeons became more confident, until a person of Mr. Tait's temperament and courage and decision came along and discovered this condition of the tubes and ovaries.

I think Dr. Cushing is to be congratulated on the results of his efforts; it is a remarkable series of cases and a remarkable showing.

Dr. R. H. Fitz: The question that first occurs to me is this: what happens to these cases if not operated upon? Until the removal of acutely diseased tubes the patient was let alone and went under medical treatment; that has already been referred to. When the first of these tubes was brought to me it was a surprise to me that in making post-mortem examinations it was a rare thing for any such condition to be seen; the inference being that if no operation was performed the fluid was gradually absorbed, the pus became absorbed, the tubes thickened, and one had in the person who got beyond the climacteric simply adhesions and thickened tubes. The amount of suffering which these women may have undergone while this process was being brought about was something that I had no idea of at the time; and it seems to me this is the natural history of this class of cases; if the attacks are not so violent as to indicate a spreading peritonitis and demand immediate operation for the relief of that condition, they will generally, the majority of them, dry up and adherent masses will remain, which evidently will give rise to very little disturbance. But it is very evident from the experience of Dr. Cushing, and familiar to other operators, that a great deal of suffering does arise until that thing in the history of the process is brought about; and that the results of these operations are very striking in relieving, as far as the present evidence goes, these serious disturbances.

With regard to the more immediate subject before us—the relation between these pelvic abscesses and tubal inflammation and cellulitis, so called—there is no question that a pelvic cellulitis does occur, and that it results in the formation of pus, but that it gives rise to any considerable tumors limited to the subperitoneal connective tissue seems to me not very likely. The course of pelvic inflammation is either forwards or backwards, and one has a long suppurating track insisted of sharply defined circumscribed tumors that are represented by the tubal inflammations, and also by the cases of circumscribed peritonitis, which are so generally of tubal origin.

I quite agree with Dr. Cushing that the great majority of these cases are not cases of abscess in the pelvic connective tissue, but are cases either of dilated inflamed tubes or of circumscribed peritonitis.

DR. J. P. REYNOLDS: That is a point which I wish to bring up a little. I don't differ perhaps at all from the statement of the general fact, that a vast number of cases which have been considered to be the result of inflammatory process in the peritoneum, are really cases of these inflamed organs, or of the tube, containing confined serum or pus. To that statement no criticism can be made; but I should not want to believe that anybody has seriously asserted that such collections of pus in occluded tubes were the result of inflamed areolar tissue. Septic inflammation in the lying-in-period, for instance, ordinarily follows the track of the subareolar tissue, that is, where the investing membrane lies loosely attached to the uterus, but in the two lateral borders is a frequent seat of such inflammatory processes, less frequently on the anterior and posterior surfaces, because there the investing peritoneal membrane is extremely closely attached to the uterus. It is an old matter of anatomical statement that the areolar tissue extends over the peritoneum, over all the viscera, and inflammatory processes occurring in it are only very exceptionally limited and converted into circumscribed disease; but that ordinarily all the various degrees of inflammation, sometimes extending over a very large portion of the abdominal surface occur, seems to me to be a fact not at all conflicting with the statement that a great many cases have been mistaken for inflammation of that tissue, and perhaps involving the peritoneum over it, when really they were inflammations, as I understand the writer of the paper to urge, of the subjacent organs and of their interior lining, resulting in the formation of masses of liquid. I don't say that it is necessary to imagine that old pathologists were so much in error when they stated that inflammation inside the Fallopian tube was the result of inflammation of the areolar tissue over it; but that there is such tissue capable of doing vast mischief, and does constantly in the lying-in period, seems to me to be a fact we must still admit. I don't think that it conflicts at all with the statement which underlies the history of these cases, that in the great majority of cases it is an internal inflammation occluding the tubes and resulting in hydrosalpinx or pyosalpinx.

DR. F. L. BURT: In many cases belonging to this class the diagnosis is of considerable importance, although in some cases it may not be really so necessary, because if we are certain that an operation must be performed, we are equally certain of being able to clear up the whole matter at that time. As a point by way of an aid to diagnosis, I would say a few words which might be of interest in regard to the use of electricity in these cases. The benefit to be derived from this agent will depend upon whether there is or is not pus present as a result of the pelvic inflammation; that is, whether an abscess or not.

To illustrate this I will briefly relate the facts concerning two typical cases. A woman of 45 years desired to enter the hospital, but I could not admit her, as there seemed to be no operation indicated, yet she was sadly in need of treatment, as she was a complete wreck. Examination showed the results of an old pelvic inflammation, and the outline of the uterus could not be made out at all. The condition was one which would most usually be diagnosed as fibroid, but there was no such tumor. I offered to treat the case at my office as a free patient. One application caused such an amount of absorption that I could easily outline the uterus after it, and with six applications there was such relief that she was able to resume work. The second case was diagnosed as fibroid which had considerable pain and flowing associated. The removal of ovaries and tubes was considered. As a preliminary treatment I applied galvanism, positive intra-uterine. The result was to increase the pain and not to stop the hæmorrhage in the least.

Previous experience led me to doubt the diagnosis, and the operation revealed a double pyosalpinx. A private case of which I show the specimen well illustrates this latter type. A lady of 50 years had suffered during the past six years all the tortures resulting from a pelvic inflammation. There was treatment at the beginning for pelvic inflammation, and what was called a cure resulted. Quite recently she was told that she suffered simply from nervousness. She was referred to me by Dr. Manuel for treatment. I found it to be a typical case of pelvic inflammation, and the pelvic organs were joined in one solid mass, but the existence of pus was uncertain.

I began with galvanism, but it did not help in any way, and the pains grew worse. The reason you will see, for a little later I did a laparotomy, and the result was the removal of the double pus tubes which I show you. The case has recovered

perfectly. Another specimen which I will present is that of tubes and ovaries from a lady aged 38, who had a fibroid about the size of a twelve weeks' pregnancy. She had flowed constantly for three weeks, and was much reduced. Some might consider this a suitable case for electrical treatment, but I did not so judge it, from the fact that there was evident disease of the tubes, and the ovaries were displaced, adherent, and very tender. She had had supporters used for a considerable time, only to aggravate the trouble. I admitted her to my private hospital, and the following day removed the tubes and ovaries. There was double hydrosalpinx, both ovaries were enlarged, cystic, displaced downwards and backwards and adherent.

Their removal was a necessity both to relieve the pain and to cause the uterus to diminish in size. The recovery from the operation was extremely rapid, and she was up in fourteen days.

In regard to the cases whose specimens have been exhibited this evening, I would say that I have had personal knowledge of them all. It is a class of cases hard to diagnose and difficult to treat, and they usually have been through all kinds of treatment, without cure, sometimes without relief, it may be for years, before they come to the surgeon. The operation is not a necessity for life, but it is for a comfortable life, as all patients suffering in this way are invalided considerable of the time, and life is a constant burden to them. Because of this I would consider the operation as clearly indicated, and the results of this series show that everything expected has been realized.

Dr. M. Rosenwasser said: While it is intended to limit the scope of my remarks to reflections on chronic pelvic inflammatory troubles, intimately connected with the subject under discussion, I beg leave to digress for a moment to question the advisability of saving the right appendages in the case of suspected gonorrhœal salpingitis. The right tube and ovary were bound down by adhesions, requiring considerable force to separate and unfold them; they appeared otherwise healthy. The object in dropping them into the pelvis was to afford the young wife the only remaining chance for a future pregnancy. One would *a priori* expect the bruised and wilted tube, with its raw, thickened walls, to be again enveloped in exuded lymph, its abdominal end occluded and the whole organ glued down to its old or some other neighbor in the pelvis. In due time this tube, so disqualified for performing the function sentimentally reserved for it, will give rise to a series of symptoms of renewed disease which will render its removal as necessary as was that of its fellow. My ominous prediction is based on a paper by Lawson Tait in the May number of the *Amer. Journal of Obstetrics* for 1887, entitled "On the Results of Unilateral Removal of the Uterine Appendages." In twenty-six unilateral appendages so saved, there was a return of the disease in more than half of the cases; only three subsequently became pregnant. These unpromising results followed, although the appendages remaining had seemed perfectly normal.

Dr. Cushing: I have very little to say to close the discussion. I should like to bring out again the fact that in presenting all these cases and all coming in at once, I do not desire to imply that all such cases are to be rushed into this operation. These are old and neglected cases, most of them from out-of-the-way places where they couldn't get treatment. I had a case from Dr. Adams, of Framingham—pelvis full and hard. I said: "The woman has a home, can hire a girl; better give emollient applications, and wait."

In regard to getting fæcal fistula: of course there is some danger of that. In one of these cases pus was discharged from the rectum. On examining with the finger during the operation I found what I presumed to be adhesions and hardened tissue around the fæcal fistula. I did not disturb it, and she had no trouble from it.

In regard to the matter of puerperal inflammatory affections, I think the profession is going through the same process of education at the hands of Mr. Tait as they did in the case of arereolar tissue at the hands of Ruysch.

I think in those cases in which Mr. Tait had the opportunity of operating, within a few days he found the tube enlarged, diseased, and evidence that the septic infection had not got into the lymphatics and run up in that way, as is generally supposed, inflaming the areolar tissue, but that there was septic endometritis; the tubes were enlarged, not occluded; pus runs out and sets the peritoneum on fire—that is the way the case spreads. I saw M. Price operate in a case after abortion. The woman had puerperal fever. The tube was found as big as my wrist, big as a Bologna sausage. Out of that came this nasty foul pus, of which there were pockets in the pelvis. The case was perfectly clear, nothing about the the areolar tissue. Pockets extended up to the kidneys. It was a neglected case.

From the results of such operations, I think the profession will go through the same course in regard to puerperal cases as in regard to non-puerperal cases. Where there is an acute case of puerperal fever somebody will take out the diseased tube, if necessary the whole diseased uterus, and in that way save the woman, because the whole uterus may be a sloughing, diphtheritic bag of foul pus. That could be rinsed out from below, but nobody can rinse the tubes out. I think *the* operation for puerperal fever is going to be to remove the tubes and sometimes the uterus with it, drain and wash out the pelvis, and a good many women will be saved.

# FOREIGN CORRESPONDENCE.

## LETTER FROM LONDON.

(FROM OUR SPECIAL CORRSPONDENT.)

*Sir Joseph Lister: His Operative Work—Abdominal Surgery at the Samaritan Free Hospital for Women—Operative Methods—The Museum in Lincoln's-Inn-Fields.*

The hospitals and clinics of the metropolis are so numerous, and the number and variety of patients and diseases so great, that one must of necessity make a selection. Fortunately the days and hours for visits and operations are published, and the visitor need have no difficulty in arranging his visits and thereby utilize all his time. My first visit to Kings' College Hospital was on Friday, the 22d of February, at 2 o'clock, the day and hour of Sir Joseph Lister's clinical lecture. Of course I had an especial desire to see the operative work and to know something of the *personnel* of the man who of all now living has most advanced the science and art of surgery. I remarked as much to Sir Joseph as we entered the operating theatre, saying that I deemed myself fortunate in seeing antiseptic surgery done by the Master, to which he replied with acknowledgement, saying, "the Master is growing old, Doctor, and must ere long leave to others the continuation of his work." The case for operation on this occasion furnished an excellent opportunity to witness the details of his method and the application of the surgical principles bearing his name, it being a case of schirrus of the breast. The operation consisted of complete excision of the right mammary gland and also of the axillary glands adjoining. The spray has long since been omitted from the antiseptic technique. The integument was first thoroughly cleansed and sterilized with a solution of bichloride of mercury, 1 to 500. Towels wrung from a solution of carbolic acid, 1 to 20, were then placed around the site of operation. The instruments and sponges were placed in the solution of carbolic acid, and the same was used for the hands of the operator and his assistant. By a triangular incision the breast was opened and the entire gland containing the tumor removed. The incision was continued into the axilla, and the axillary glands and fascia cleanly removed, the operator relying most upon his fingers and the handle of the scalpel in enucleation. Bleeding vessels were seized with pressure-forceps, and catgut ligatures applied and cut short where required to secure them. Rubber drainage-tubes were placed, the exposed surfaces irrigated with the sublimate solution, and the irrigation continued while the dressing was completed. The latter consisted of the application of silk sutures bringing the flaps together, antiseptic gauze to the wound, all covered with several layers of light antiseptic gauze, and a bandage retaining all and fixing the arm to the side. As a surgeon Sir Joseph is prompt, deliberate, skillful and self-reliant. Indeed he is, in a word, a thorough-going surgeon. There were two points impressed more particularly upon my mind as I watched the several steps of the operation. The first was the dexterity with which Sir Joseph utilizes the drainage-tube, and what an important feature it is in his technique. In this instance he used three, placed so as to thoroughly drain the extensive surfaces of all fluids. The second point noted was the care bestowed upon preventing admission of air to the wound after uniting the flaps and making the final sublimate irrigation. His care and solicitude regarding this last point were marked, and show that he is firm in his conviction that the air is the medium of microbic infection. As you know, this last premise is the battle-ground contested so keenly by those who do not adopt in its entirety the Listerian doctrine. The so-called gospel of surgical cleanliness insists upon asepsis as effected by hot water to instruments, hands, etc., but does not regard the air a medium of infection. The fact stands before us, however, that in old hospitals and crowded wards wounds are united without suppuration, joints opened and healed without febrile action under thorough antisepsis. This too with uniformity, in an atmosphere which in the old days carried septic infection in some degree to every wound exposed thereto.

After operating, Sir Joseph Lister kindly took me through his wards where I had the opportunity to see a large number of interesting cases. He removed the dressings from a case of fractured patella in which the joint was opened and fragments wired one week before. The stitches were clipped and removed from a dry, firmly united wound. Two lateral splints secured immobility of the limb, and are retained until union is firm, being removed from time to time for passive motion. In another case the thigh had been amputated, on account of sarcoma, three weeks before, and the temperature chart told the story of continued improvement without febrile action from the date of operation. The case which interested me most in these wards was that of a woman with suppurating hydatid cyst of the liver communicating with the stomach. Three days before Sir Joseph had made an exploratory section, opened, irrigated and drained the sac. The patient now maintained by enema, and presented favorable symptoms. Such interference in an obscure abdominal swelling, associated with grave constitutional symptoms, illustrates genuine conservative surgery, whereas the common practice of giving anodynes in such conditions, called expectant treatment, is anything but conservative. Sit Joseph has the Fergusson and Victoria wards in this exceilent hospital, which are are always filled with interesting surgical cases of great variety.

Just off Portman Square, at 13 Lower Seymour street, situated immediately on the street, is an unpretentious building which has been the scene of most important events connected with the rise and progress of a great and brilliant department of surgery. A glance is sufficient to assure one that the building was never designed for its present purpose, but that it was a small dwelling-house which has been enlarged and adapted to the demands of its present use. It bears the name of the Samaritan Free Hospital for Women and Children, founded in 1847, with the additional statement that it is supported by voluntary contributions. Entering the reception-room the eye is attracted by a handsome marble bust of Sir Spencer Wells, the eminent consulting surgeon of the hospital. It was here that Sir Spencer conducted through many years with unswerving fidelity and persistence, in the face of fierce opposition and denunciation, those labors in abdominal surgery which laid the foundation for the brilliant achievements of the present age. It must be remembered that after McDowell and Nathan Smith had passed away, ovariotomy lapsed into disrepute, until Wells, in England, and the Atlees, in America, resumed the work and placed the operation upon a firm footing. Sir Spencer has retired from active work at the hospital, and the work is ably continued by Bantock, Thornton, Meredith and others. The first operation I witnessed in the hospital was on February 26, and was by Dr. Bantock. Before being admitted to the operating room all visitors are required to sign a printed statement that they have not recently attended any case of acute infectious disease or post-mortem examination. On entering the room the patient was anæsthetized and the operator, assistant and nurse in their respective positions. The hair was shaved from the pubes, and a rubber cloth laid over the patient's body, with an opening over the abdomen. The instruments were placed in trays and covered with hot water. No antiseptic solutions of any kind are employed by Bantock. An incision was quickly made in the median line about 3 inches in length. Before opening the peritoneum all bleeding points were seized with pressure forceps. The peritoneum was seized and nicked, and divided with scissors. The operator then introduced two fingers and thoroughly explored the pelvis. The tumor was an uterine fibroid and was found to have extensive attachments to the sides of the pelvis and pelvic viscera. It was decided to be impracticable to remove it, and the incision was at once closed. Silk-worm gut sutures were introduced with the Hagedorn needle, and the incision neatly closed. A piece of gauze was applied along the wound, a pad of same material superimposed and a broad bandage placed firmly over all.

On March 3, I witnessed a second abdominal section by Bantock. On opening the abdomen the tumor was found to be a solid tumor of the broad ligament. The peritoneal covering of the tumor was incised, the growth turned out, and a point of firm attachment secured with a single ligature. Considerable venous oozing persisted from the site of the tumor. After packing with sponges for a time, a glass drainage-tube was placed in and the incision closed. The operation was done quite deliberately, great care bestowed upon the toilette of the peritoneum and dressing, and no attempt to curtail time by quick work. Silk-worm gut sutures were used to close the incision. Bantock is most attentive to details, exceedingly neat in all his work and deliberate in dealing with complications. His results are unsurpassed.

On March 6, I saw Mr. Knowsley Thornton do an ovariotomy. Although working in the same hospital, his technique is altogether different from that adopted by Bantock. The patient having been etherized is covered with a large rubber sheet, with a opening over the central part of the abdomen. The instruments, ligatures and sponges are placed in a solution of carbolic acid and the spray (carbolic acid 1 to 24) directed upon the field of operation throughout. An incision about 3 inches long was made and the cyst was entered through dense adhesions. The chocolate-colored contents of the cyst contained numerous, large, soft degenerated clots, seeing which the operator expressed his belief that the tumor would be found to have a twisted pedicle. This proved to be correct. The sac was universally adherent, the attachments being old and very firm. The sac was emptied and thoroughly cleansed, and the work of separation begun. This proved a difficult task. After a faithful effort to secure a hold at the line of incision, it was decided to enlarge the incision and attempt separation from the posterior. The sac was inverted as far as possible and carefully divided upon its posterior part down to omentum and intestines and the work of enucleation begun. The attachments to omentum, intestine and Fallopian tube were very firm and separated with great difficulty. The scissors was required frequently and many ligatures applied. Denuded surfaces bled freely and ligature and sponge-packing constantly applied. Proceeding cautiously, the huge sac was finally brought away. The peritoneum was thoroughly cleansed, all oozing surfaces receiving close attention, and after repeated counting of sponges and forceps the drainage-tube (glass) was placed in Douglas' space and the incision closed. The tube was dressed with sponge and rubber, as usual, but closed carefully by a pad and bandage over all, so as to exclude completely access of air. The pad over the incision was fixed by strong adhesive straps, and bandage over all.

This operation required an hour and thirty minutes and was one of the most difficult I have

ever seen. I have encountered in my own work one such cyst with universal firm adhesions, and could appreciate all the more the difficulties of the situation. I my own case I left behind several portions of the sac attached to the intestines; my patient made a good recovery. Mr. Thornton told me after the operation that several times during the operation he doubted his ability to complete the enucleation. I saw this patient yesterday, eight days after the operation, in advanced convalescence. She had an uninterrupted progress toward recovery, which is already assured.

Of the many admirable features of Mr. Thornton's work, one deserves special mention. I allude to his sponge-packing. He leaves no bleeding points to go back to, but secures them as he proceeds. He uses his sponges to great advantage as means of pressure, to absorb exuded fluids, and to protect the peritoneum in every way. He uses silk altogether for ligatures and sutures.

On March 14 I witnessed an ovariotomy by Dr. Bantock in the morning, and a cholecystotomy by Mr. Thornton in the afternoon. Having outlined the methods of each in abdominal work, I will not go into details by way of repetition.

One of the most interesting and instructive places a medical man can visit in London is the Museum of the Royal College of Surgeons in Lincoln's-Inn-Fields. The collection illustrating extra-uterine fœtation is especially rich and particularly interesting at this time, when so much attention is being given the subject. Here also are to be found many specimens from Sir Spencer Wells' extensive experience; one of these from a case of Porro's operation, with nodular fibroid uterus, deserving special mention. One dermoid of the ovary, containing a mass of hair and teeth, is of the Hunterian collection. The collection of uterine and ovarian tumors is very extensive and illustrates many pathological conditions of practical interest. These are all the more instructive by reason of the fact that a history of each in abstract is at hand.

In a few days I go to Bristol to spend a few days with Mr. Greig Smith, and thence to Edinburgh. About April 1 I will go to the Continent, and will write you from Paris or Munich.

L. S. MCMURTRY.

March 15, 1889.

## BOOK REVIEWS.

INTESTINAL SURGERY. By N. SENN, M.D., PH.D., Attending Surgeon Milwaukee Hospital; Professor of Principles of Surgery and Surgical Pathology, Rush Medical College, Chicago. Chicago: W. T. Keener. 1889.

This is an octavo volume of 269 pages, printed and bound in fair style, and contains a republication of the author's very valuable contributions to our knowledge of intestinal injuries and their treatment, by experiments and clinical experience. It contains the lengthy paper on The Surgical Treatment of Intestinal Obstructions, read before the Congress of American Physicians and Surgeons, in 1888; An Experimental Contribution to Intestinal Surgery, etc., reprinted from the *Annals of Surgery;* Rectal Insufflation of Hydrogen Gas, an Infallible Test in the Diagnosis of Injury of the Gastro-Intestinal Canal in Penetrating Wounds of the Abdomen, read in the Surgical Section of the American Medical Association, 1888; and the report of two or three cases illustrating the practical application of the hydrogen gas insufflation.

A MANUAL OF INSTRUCTION IN THE PRINCIPLES OF PROMPT AID TO THE INJURED, Designed for Military and Civil Use. By ALVAH N. DOTY, M.D., Major and Surgeon Ninth Regiment N. G., S. N. Y.; Attending Surgeon to Bellevue Hospital Dispensary, New York. New York: D. Appleton & Co. 1889.

This is a small sized volume of 224 pages, published in good style and fully illustrated. The author says in the preface: "The object of this manual is to instruct those who are desirous of knowing what course to pursue in emergencies, in order that sick or injured may be temporarily relieved. Special effort has been made to arrange the matter and introduce such points as will be of use to the ambulance corps connected with the different military organizations." From a cursory examination of the contents of the book we think the author has succeeded well in accomplishing the object just stated.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Vol. II, No. 1. Contents: "On Diabetes and its Connection with Heart Disease," by JACQUES MAYER, M.D. "Blenorrhœa of the Sexual Organs and its complications," by ERNEST FINGER, M.D. New York: Wm. Wood & Co. April, 1889.

This number of Wood's Monographs contains the two articles named above. They are well translated and interesting. The first occupies 29 pages, the second 275. The second is a complete monograph upon the subject. The advice in regard to treatment is certainly judicious, but we do not learn that any very great advancement has been made by the author over the results of others.

THE STUDENTS' TEXT-BOOK OF THE PRACTICE OF MEDICINE. By ANZEL MONEY, M.D., Lond. London: H. K. Lewis, 1889.

This small hand-book is very well written and free from errors. It is to be commended as a good

but too brief résumé of the subject. In this country at least it is doubtful if there is any need for such small works, which imperfectly cover the subject of the Practice of Medicine.

AMERICAN RESORTS; WITH NOTES UPON THEIR CLIMATE. By BUSHROD W. JAMES, A.M., M.D. With a Translation from the German by Mr. S. Kaufmann of those Chapters of "Die Klimate der Erde," written by Dr. A. Wollkoff, of St. Petersburg, Russia, that relate to North and South America, and the Islands and Oceans contiguous thereto. Philadelphia: F. A. Davis. 1889.

As indicated by the title, this unique and carefully written book is especially adapted for the perusal of invalids and those who desire to preserve good health in a suitable climate. The author, in the preface says, the longer he is engaged in professional work as a physician, the more he is impressed with the importance of the residence of invalids in a suitable climate as an almost indispensable factor in the treatment, prevention and cure of many forms of disease. He is of the opinion that our own country affords sufficient variety and range of climatic conditions to meet the needs of any case where change of climate is desired. He goes on to say: "If we as people, would more generally seek health in our own sanitaria, and our medical men would encourage their patients so to do, the value of these places of retreat for health would soon be appreciated and their fame become widespread."

The chapter on Medical Climatology is especially interesting to the profession, as is also that on the Benefits and Dangers of Health Resorts.

The book is well printed, and reflects credit on both author and publisher.

## MISCELLANY.

THE MCLEAN COUNTY MEDICAL SOCIETY met in extra session on April 11, 1889, at the office of Drs. Darrah & Corley. There were present Drs. S. T. Anderson, L. A. Burr, E. K. Crothers, C. J. Corley, A. L. Chapman, A. T. Darrah, N. F. Jordan, Wm. Hill, E. P. C. Holderness, E. Mammen, H. Parkhurst, W. L. Pollock, G. M. Smith, J. B. Taylor, F. J. Welch, J. L. White, S. B. Wright.

Dr. Parkhurst occupied the chair. Dr. Jordan stated the object of the meeting, which was to take some action with regard to the proposed repeal by the State Legislature of Section 11 of the Medical Practice Act. On motion the chair appointed Drs. Hill, White and Darrah to prepare resolutions expressive of the sentiments of the members of the Society with reference to the proposed legislation. The committee reported and the Society adopted unanimously the following:

WHEREAS, A bill has been introduced in our State Legislature by one of the Representatives from this county, to repeal Section 11 of the Medical Practice Act, and

WHEREAS, The impression might be conveyed abroad that the medical profession of McLean County was in accord with the Representative who has offered the bill. Therefore be it

*Resolved*, That we, the members of the McLean County Medical Society in extra session convened, this, the 11th day of April, 1889, condemn the action of our Representative in his efforts to repeal said Section 11 of the Medical Practice Act, and further, be it

*Resolved*, That we heartily endorse the Medical Practice Act as it now stands.

Drs. J. L. White and A. T. Darrah were appointed to visit the Illinois State Legislature in the interest of the Medical Practice Act as it now stands.

C. J. CORLEY, M.D., Secretary.

ADMISSION OF AIR TO ROOMS.—Air should be introduced and removed at those parts of the room where it would not cause a sensible draught. Air flowing against the body at, or even somewhat above the temperature of the air of the room will cause an inconvenient draft, from the fact that, as it removes the moisture of the body, it causes evaporation or a sensation of cold. Air should never, as a rule, be introduced at or close to the floor level. The opening would be liable to be fouled with sweepings and dirt. The air, unless very much above the temperature of the air of the room, would produce a sensation of cold to the feet. It may be regarded as an axiom in ventilating and warming, that the feet should be kept warm and the head cool.

The orifices at which air is admitted should be above the level of the heads of the persons occupying the room. The current of inflowing air should be directed toward the ceiling, and should either be as much subdivided as possible by means of numerous orifices, or be admitted through conical openings with the smaller opening toward the outer air and the larger openings toward the room, by which means the air of the entering current is very rapidly dispersed. Air admitted near the ceiling very soon ceases to exist as a distinct current, and will be found at a very short distance from the inlet to have mingled with the general mass of the air and to have attained the temperature of the room, partly owing to the longer mass of air in the room with which the inflowing current mingles, partly to the action of gravity in cases where the inflowing air is colder than the air in the room. —*Sanitary News*, April 13, 1889.

A NEW CHAIR.—A Chair of Physical Examination for Life Insurance has been created in the University of Vermont. Is there anything in the physical examinations for life insurance that differs so much from the application of physical examinations for diagnostic purposes generally, that a special Chair for its teaching is required?

THE ANNUAL MEETING of the Association of Acting Assistant Surgeons of the U. S. Army will be held in the Casino at Newport, R. I., Monday, June, 24, 1889, at 8 P.M. Members of the Association are cordially invited to read, or present papers concerning the history and the welfare of the corps. Members who intend to be present are requested to notify the Recorder at the earliest possible date. Although few Acting Acting Assistant Surgeons can be present at the meeting, the Association will discuss the best methods to aid in improving ths status of those who are now serving, and will do everything in its power for their welfare. The Secretary, or Recorder, is W. Thornton Parker, M.D., 322 Benefit St., Providence, R. I.

MEDICAL ASSOCIATION OF THE DISTRICT OF COLUMBIA. —At the recent regular annual meeting of the Medical Association of the District of Columbia the following officers were elected for the ensuing year: President, Jas. T. Young, M.D.; Vice-Presidents, A. F. A. King, M.D., Swan M. Burnett, M.D.; Secretary, Geo. C. Ober, M.D., Treasurer, Sam'l S. Adams, M.D.; Censors, Drs. H. D.

Fry, C. W. Richardson, L. K. Beatty; Counselors, Drs. T. W. H. Lovejoy, Kleinschmidt, Smith, Acker, Cook, Dunn, McArdle, Prentiss and Johnson.

THE TWENTY-SECOND ANNUAL SESSION of the Medical Society of the State of West Virginia will be held at White Sulphur Springs, W. Va., on July 17, 18 and 19, 1889. The prospects are that this will be a large and interesting meeting. Dr. J. L. Fullerton, Secretary of the Society, Charleston, W. Va., will be glad to give any information desired.

THE MICHIGAN STATE MEDICAL SOCIETY will hold its next annual meeting in Kalamazoo, May 9th and 10th. The Address on Medicine will be given by Dr. H. F. Lyster; the Address on Surgery by Dr. Newman Kiefer; and the Address on Obstetrics and Gynecology by Dr. E. W. Jenks. Complete arrangements are made for the accommodation of members and a full meeting is expected.

## *PAMPHLETS RECEIVED.*

Baker, A. R., M.D., Cleveland, Ohio. *Opening Address Medical Department of the University of Wooster, February, 27, 1889.* Reprint from the Cleveland Medical Gazette.

Judson, A. B., M.D., New York. *The Question of Interfering with the Abscesses of Hip Disease.* Reprint from the New York Medical Journal.

Kipp, Charles J., M.D., Newark, N. J. *A Cause of Double Vascular Exophthalmos. Recovery Under Intermittent Compression of the Right Carotid Artery and the internal use of Iodide of Potassium. Cocaine Conjunctivitis.* Reprint from Transactions of American Ophthalmological Society.

Newman, Henry P., M.D., Chicago. *Alexander's Operation, with Report of Cases.* Reprint from the North American Practitioner.

Roberts, John B., M.D., Philadelphia. *The Science of Successful Surgery.* Reprint from the Journal of the American Medical Association.

Solis-Cohen, J., M.D., Philadelphia. *Common Membranous Sore Throat.* Reprint from the New York Medical Journal.

Vander Veer, A., M.D., Albany, N. Y. *Relation of the Abdominal Surgeon to the Obstetrician and Gynæcologist.* Reprint from Gaillard's Medical Journal.

## *LETTERS RECEIVED.*

Dr. H. F. Walter, Gladbrook, Ia.; A. S. Burdick, West Hallock, Ill.; Dr. E. C, Loehr, Noblesville, Ind.; Dr. C. S. Pixley, Elkhart, Ind.; Dr. James M. Jacks, Montreal, Canada; Dr. A. J. Brockett, Cleveland, O.; Dr. J. J. Mulheron, Detroit, Mich.; Dr. Frank Allport, Minneapolis, Minn.; Dr. R. J. Dunglison, Philadelphia; Dr. Geo. C. Ober, Washington, D. C.; Good Health Publishing Co., Battle Creek, Mich.; Dr. John S. Coleman, Augusta, Ga.; Dr. A. C. Ames, Hebron, Neb.; Dr. H. C. Pearce, Urbana, O.; Dr. E. C. Traver, Franklin, N. Y.; Mellier Drug Co., St. Louis, Mo.; Dr. R. F. Price, Waynesburgh, O.; Miner & Elbreg, Indianapolis, Ind.; John G. Reed, Cincinnati, O.; Providence Chemical Works, St. Louis, Mo.; Dr. A. L. Hummel, Philadelphia; Lehn & Fink, Eisner & Mendelson, New York; Dr. J. G. Carpenter, Stanford, Ky.; Dr. Samuel N. Nelson, Boston; Dr. C. J. Proken, New York; Dr. H. W. Shove, Woodbury, Conn.; Dr. H. D. Niles, Salt Lake City; Dr. J. H. Thornton, Lansing, Ia.; Dr. F. M. Thomas, Samantha, O.; Dr. J. W. Trabert, Annville, Pa.; Dr. P. P. Nichols, Searsport, Me.; F. A. Field, Rutland, Vt.; Dr. Wm. B. Canfield, Baltimore, Md.; Dr. S. P. Bishop, Delta, O.; Dr. E. J. Tidd, Clark, Pa.; Theodore Metcalf & Co., Boston, Mass.; Soden Mineral Springs Co., New York; Dr. L. S. McMurtry, Paris, France; Dr. H. K. Myers, Chambersburg, Pa.; Thos. Leeming & Co., New York; Codman & Shurtleff, Boston; Daniel Green & Co., New York; Medical and Surgical Sanitarium, Battle Creek, Mich.; Dr. John H. Clark, Mechanicsburg, O.; Geo. F. Lasher, Philadelphia; W. H. Schieffelin & Co., New York; Dr. A. M. Wilber, West Unity, O.; M. A. Spencer & Co., Cincinnati; Battle & Co., St. Louis; Dr. A. G. Young, Augusta, Me.; John C. Jenkins, Louisville, Ky.; Henry L. Hayes, Washington, D. C.; Galvano-Faradic Mfg. Co., New York; Dr. W. W. Seymour, Troy, N. Y.; J. B. Lippincott Co., Philadelphia; Springer Torsion Balance Co., New York; Dr. J. N. Eldred, Chesaning, Mich.; Maltine Mfg. Co., New York; Farwell & Rhines, Watertown, N. Y.; Doliber-Goodale Co., Boston; Packer Mfg. Co., New York; Chas. Lentz & Sons, Philadelphia; Lambert Pharmacal Co., St. Louis; Dr. J. L. Slaight, Hot Springs, Ark.; Dr. James P. Marsh, Green Island, N. Y.

*Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from April 6, 1889, to April 12, 1889.*

PROMOTIONS.

Charles C. Byrne, Surgeon U. S. Army, promoted Surgeon, with the rank of Lt.-Col., to rank from March 29, 1889.

Curtis E. Munn, promoted from Asst. Surgeon to Surgeon, with the rank of Major, to rank from March 29, 1889.

By direction of the President, Capt. Paul R. Brown, Asst. Surgeon, will report in person to Brig.-Gen. John R. Brooke, President of the Army Retiring Board at Omaha, Neb., for examination by the Board. Par. 9, S. O. 80, A. G. O., Washington, April 6, 1889.

By direction of the Secretary of War, leave of absence for six months is granted Capt. Charles S. Black, Asst. Surgeon, to take effect after the arrival at Ft. Sidney, Neb., of Acting Asst. Surgeon Robert P. Finley. Par. 14, S. O. 78, A. G. O., Washington, April 4, 1889.

By direction of the President, the State of Wisconsin is transferred from the department of the East to the Department of Dakota. G. O. 36, A. G. O., Washington, April 6, 1889.

*Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending April 13, 1889.*

P. A. Surgeon A. C. Heffenger, found unfit for duty at present, by Retiring Board, but not permanently incapacitated for active service, and granted one year's leave of absence for medical treatment.

P. A. Surgeon W. R. DuBose, detached from the U. S. S. "Constellation" and ordered to the practice ship "Jamestown."

C. H. T. Lowndes, commissioned an Asst. Surgeon in the U. S. Navy March 13, 1889.

*Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Two Weeks Ending April 13, 1889.*

Surgeon John Godfrey, to proceed to Poughkeepsie, N. Y., on special duty. April 10, 1889.

P. A. Surgeon F. W. Mead, to report in person to the Supervising Surgeon-General, April 3, 1889. Detailed as Acting Chief Clerk Marine Hospital Bureau, and attending surgeon, port of Georgetown, D. C. April 10, 1889.

P. A. Surgeon W. A. Wheeler, relieved from duty at Buffalo, N. Y., to assume charge of the Service at Norfolk, Va. April 3, 1889.

P. A. Surgeon S. C. Devan, relieved from duty as Acting Chief Clerk, Marine Hospital Bureau, and attending surgeon; to assume charge of the Service at Buffalo, N. Y. April 3 and 12, 1889.

Asst. Surgeon W. J. Pettus, granted leave of absence for four days. April 6, 1889.

Asst. Surgeon J. B. Stoner, to rejoin station (New York) as soon as practicable. April 11, 1889.